

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII**

In the Matter of the Application of)
)
MAUI ELECTRIC COMPANY, LIMITED)
)
For Approval of Rate Increases and)
Revised Rate Schedule and Rules)
_____)

Docket No. 2006-0387

Public Utilities Commission

OCT 30 2007

FILED

**MECO
2007 TEST YEAR**

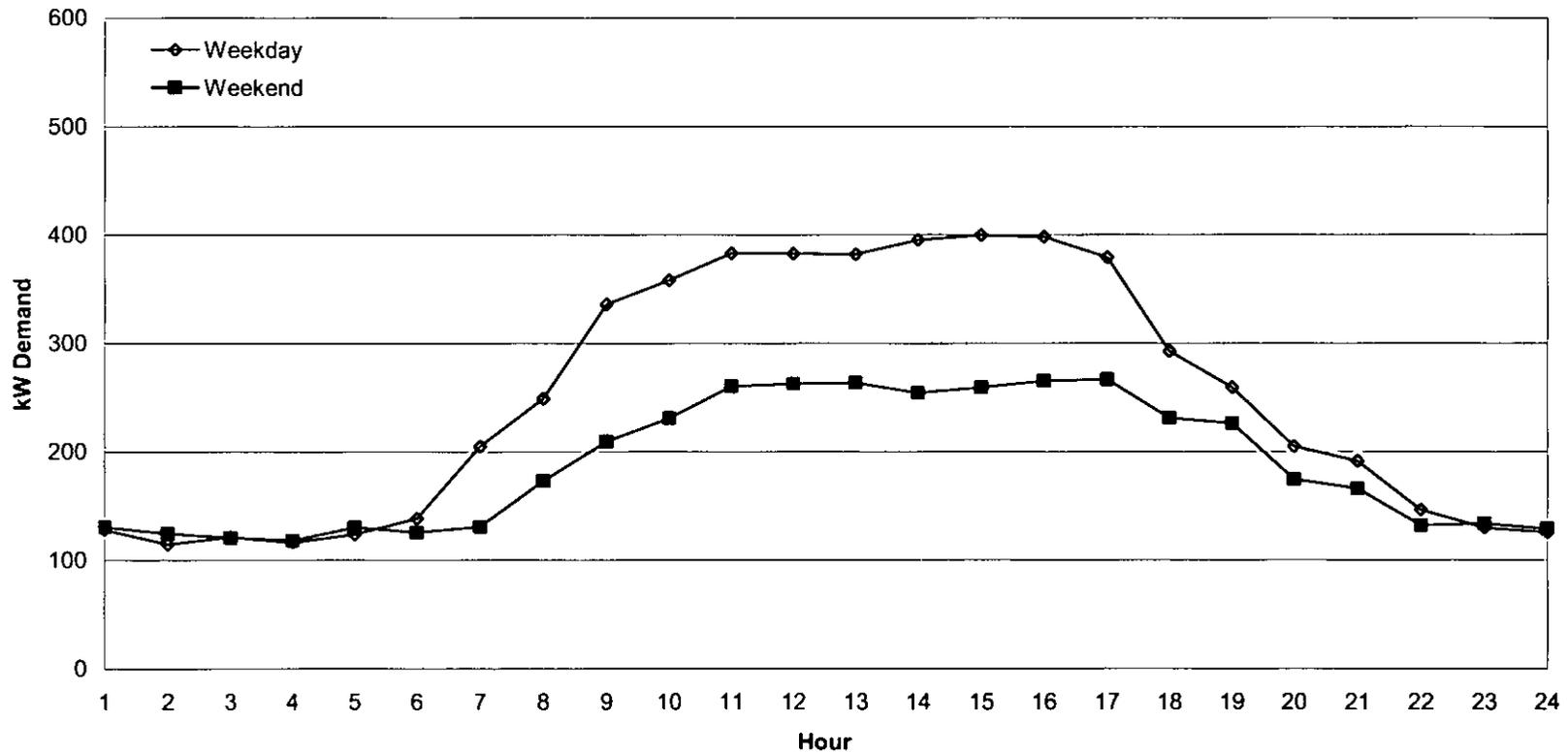
**MECO Voluminous Responses to
CONSUMER ADVOCATE
Information Requests**

Book 10 of 12

October 30, 2007

Exhibit 8.1 b

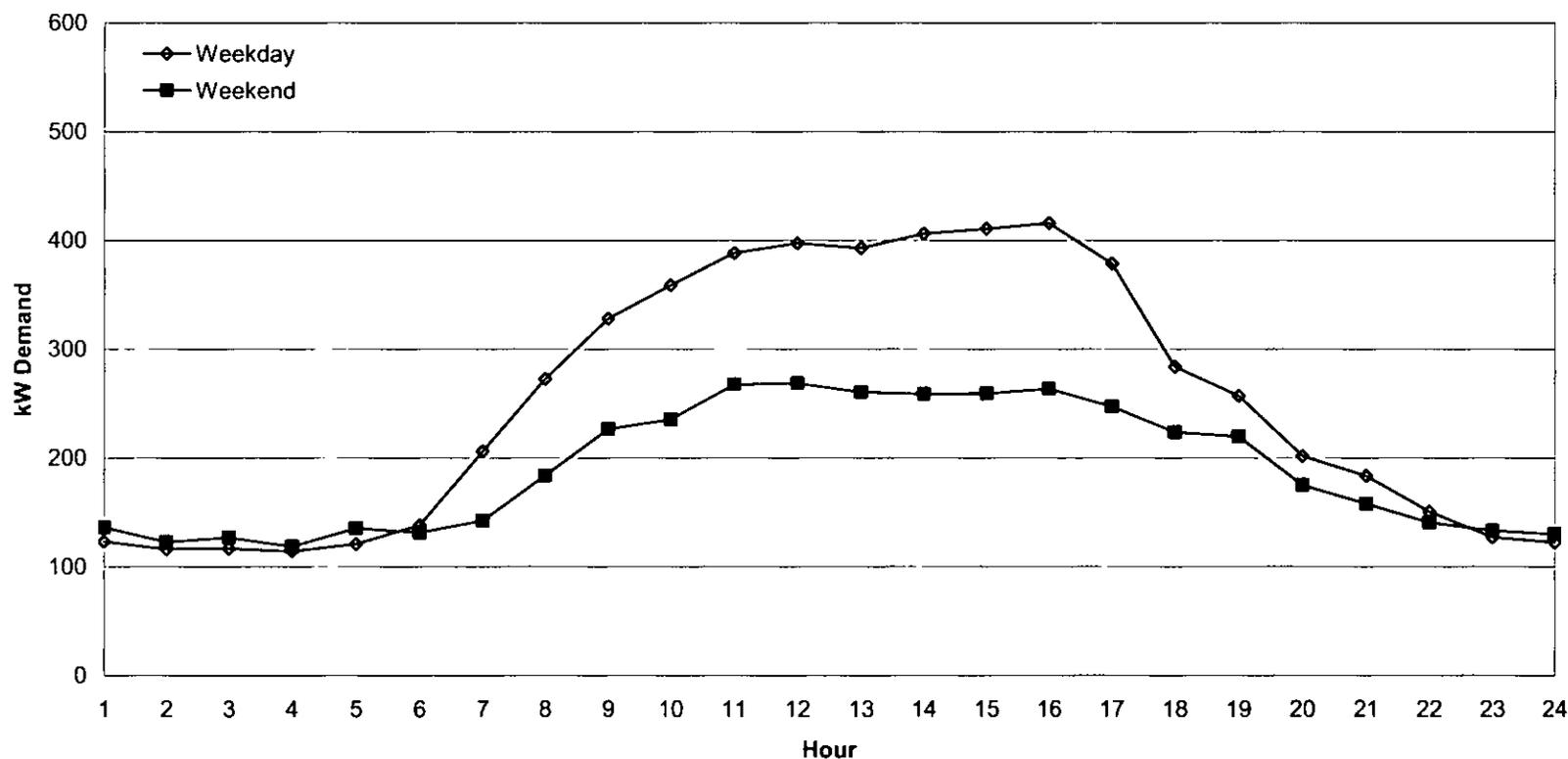
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
February 2005



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Exhibit 8.1 c

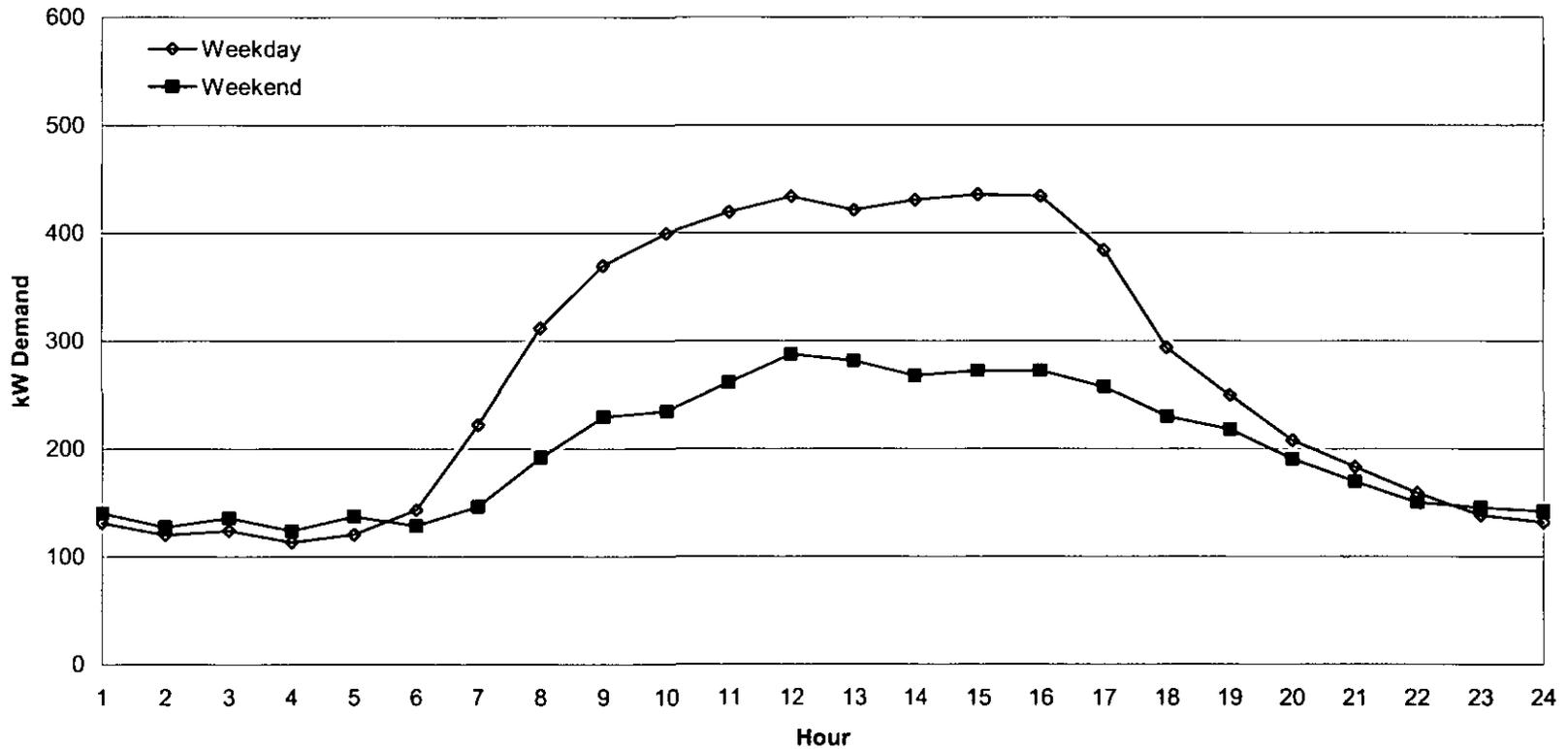
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
March 2005



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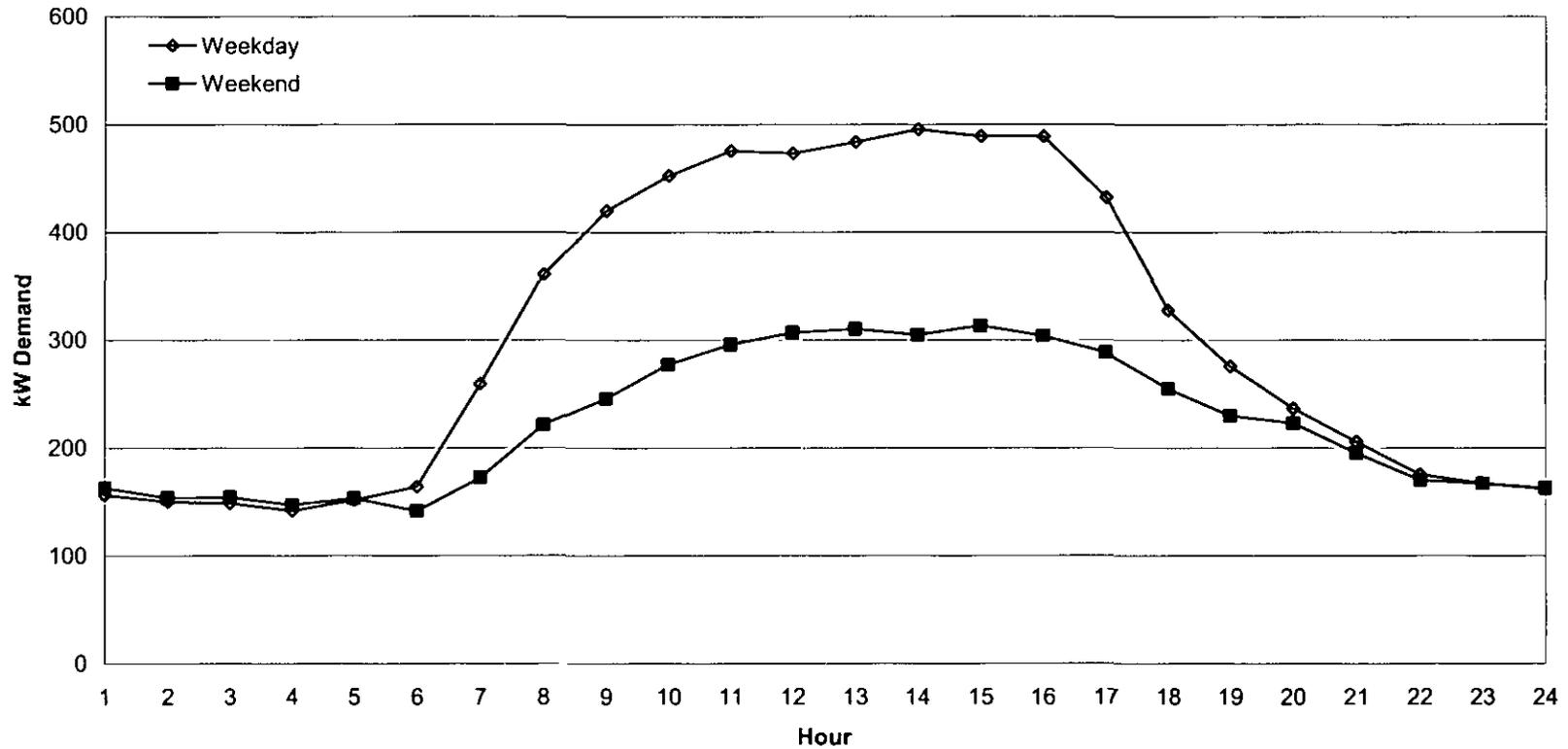
Exhibit 8.1 d

AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
April 2005



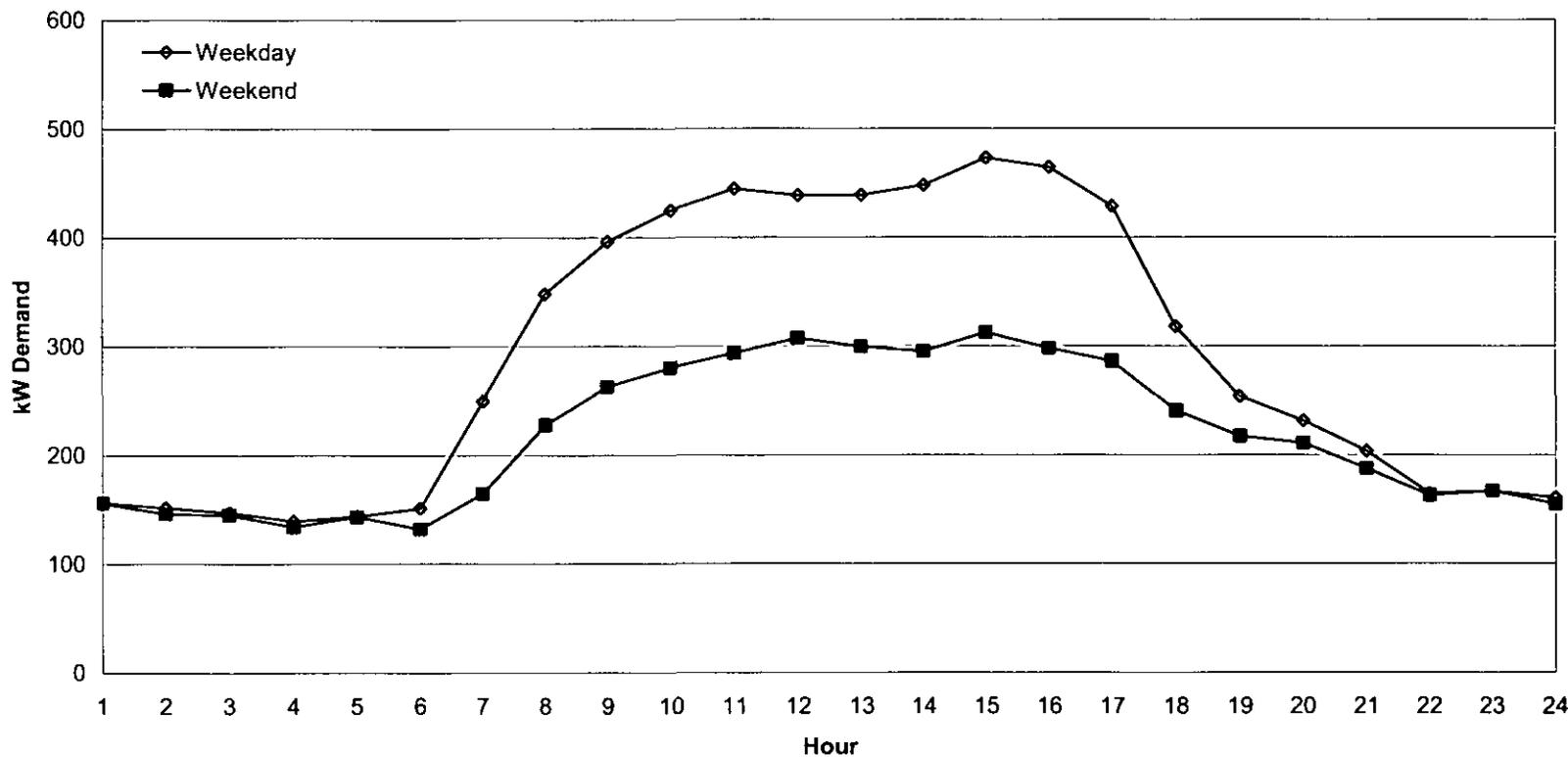
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Exhibit 8.1 e
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
 May 2005



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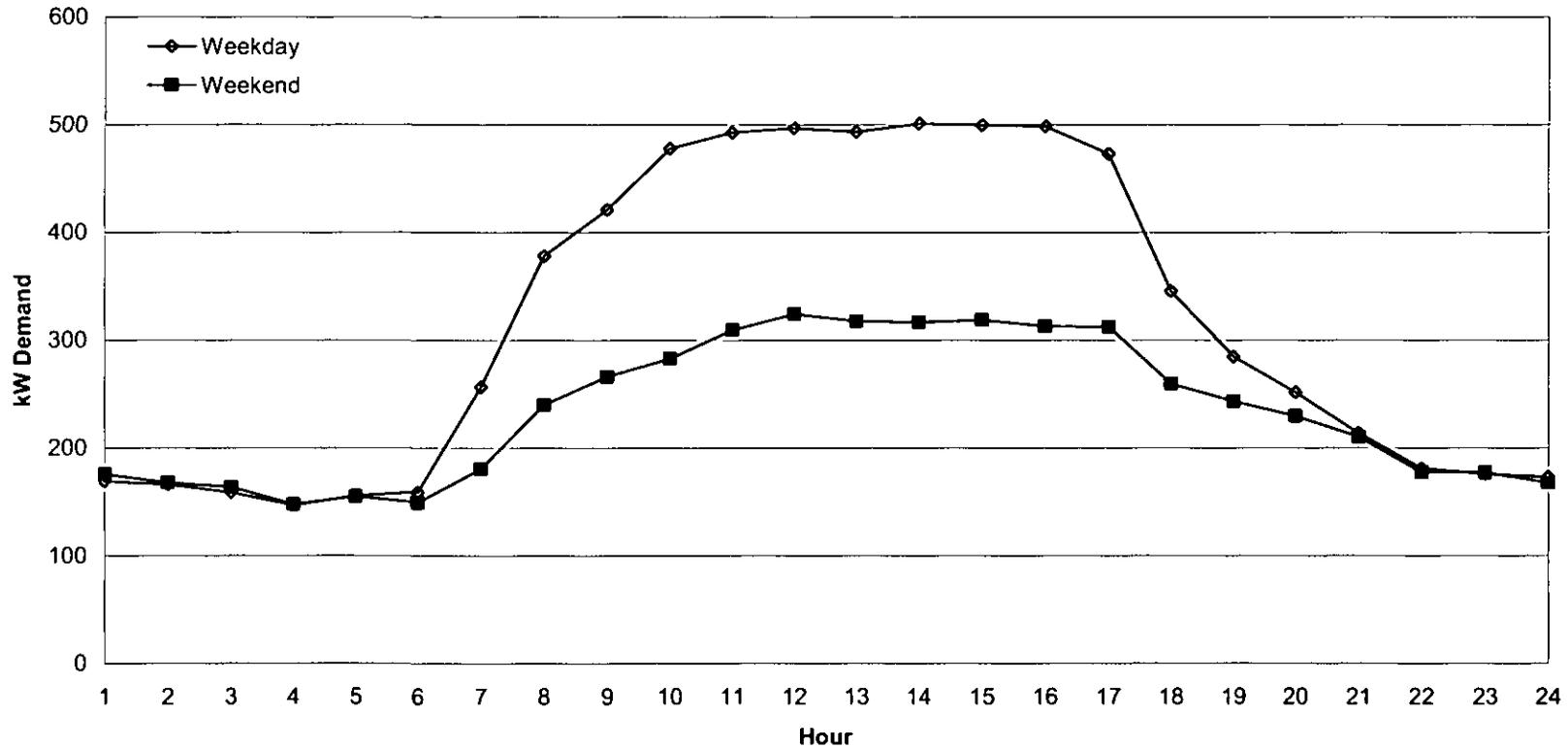
Exhibit 8.1 f
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
 June 2005



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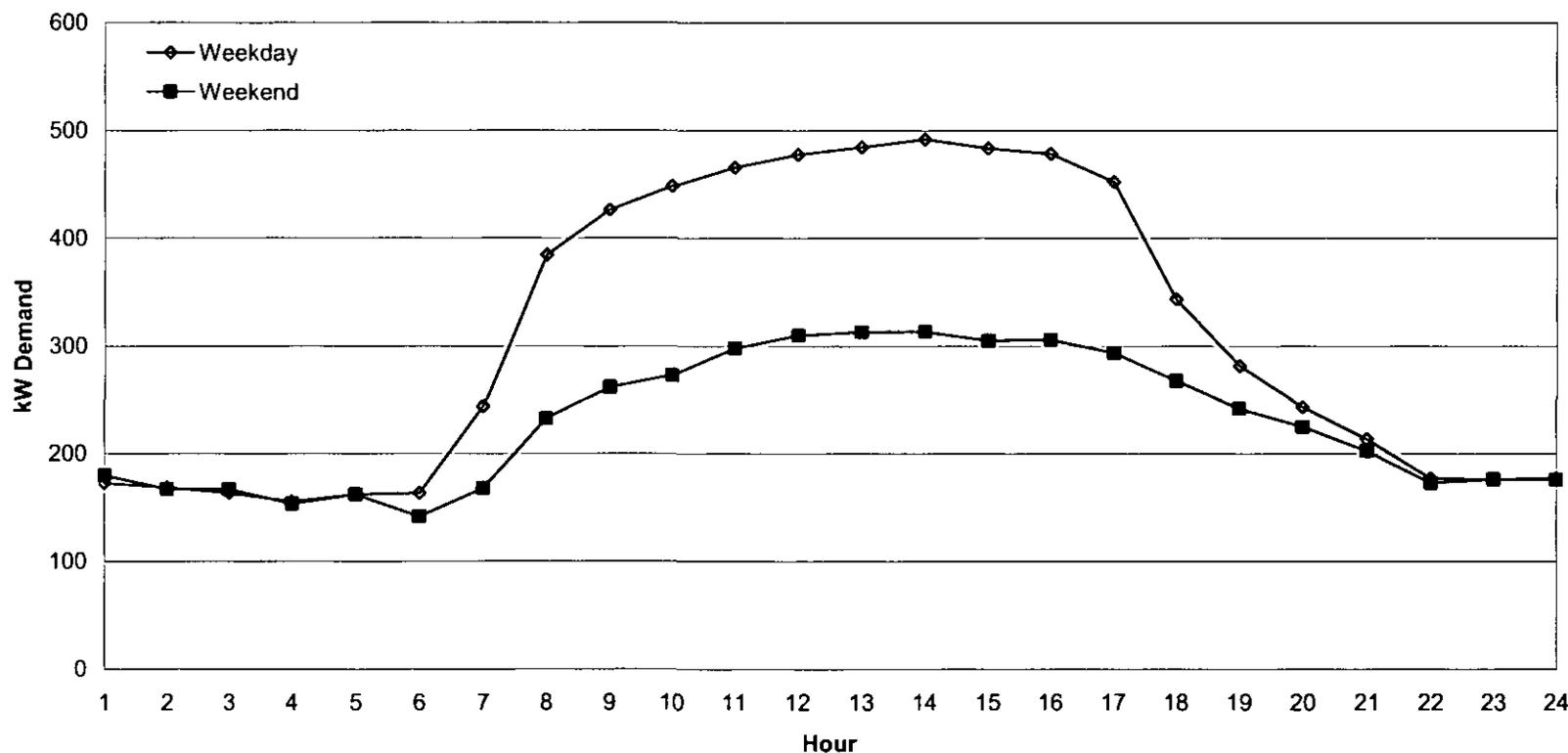
Exhibit 8.1 g

AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
July 2005



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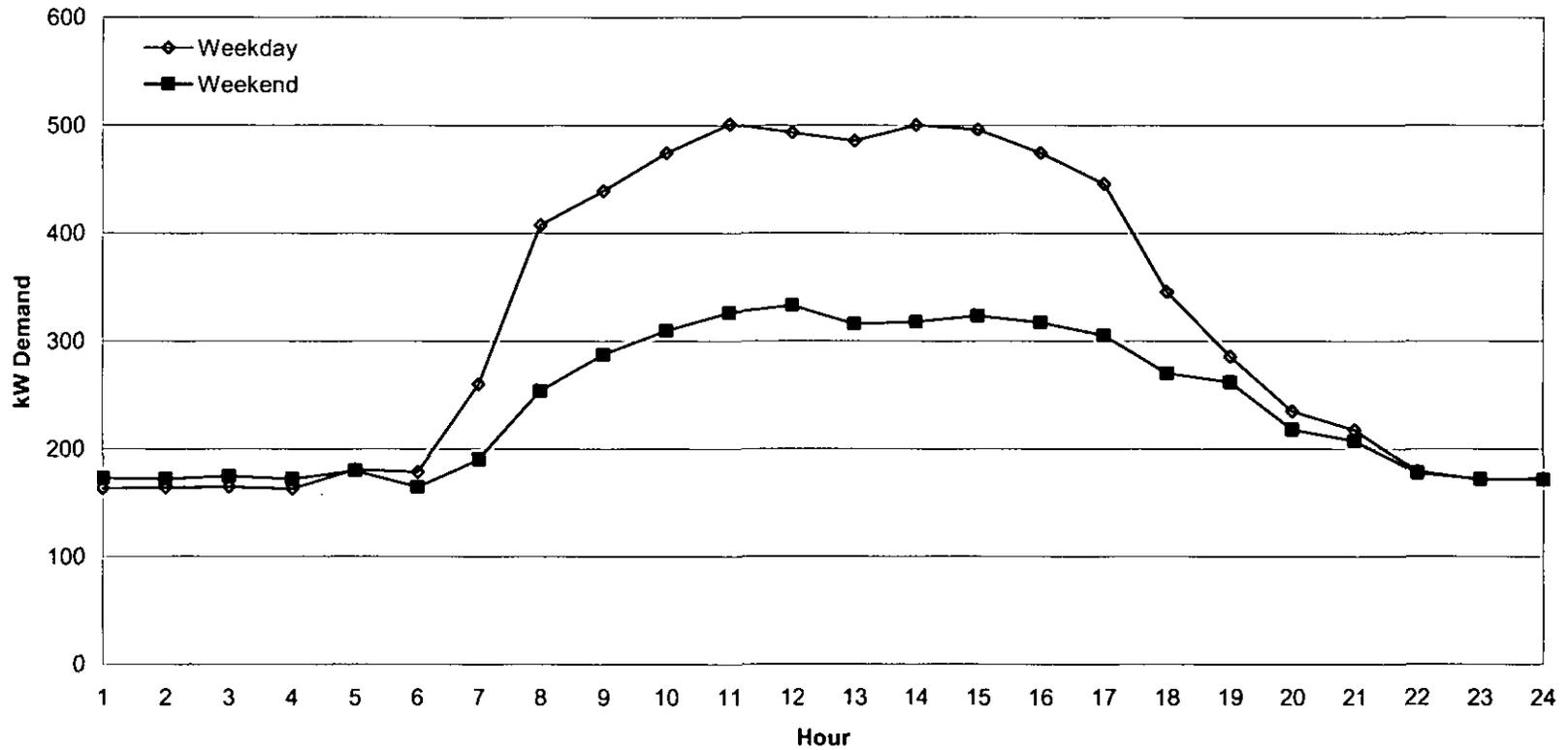
Exhibit 8.1 h
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
 August 2005



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Exhibit 8.1 i

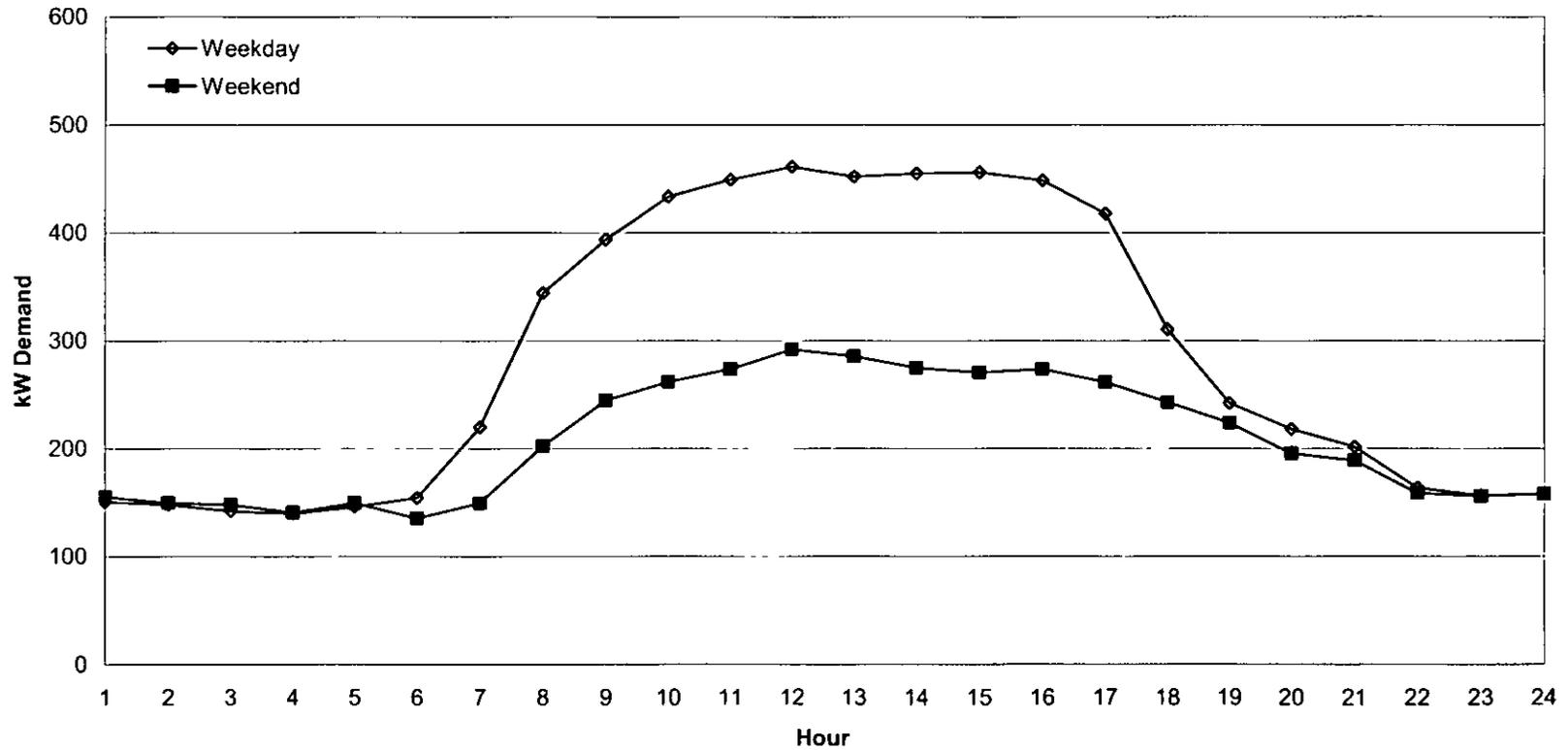
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
September 2005



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Exhibit 8.1 j

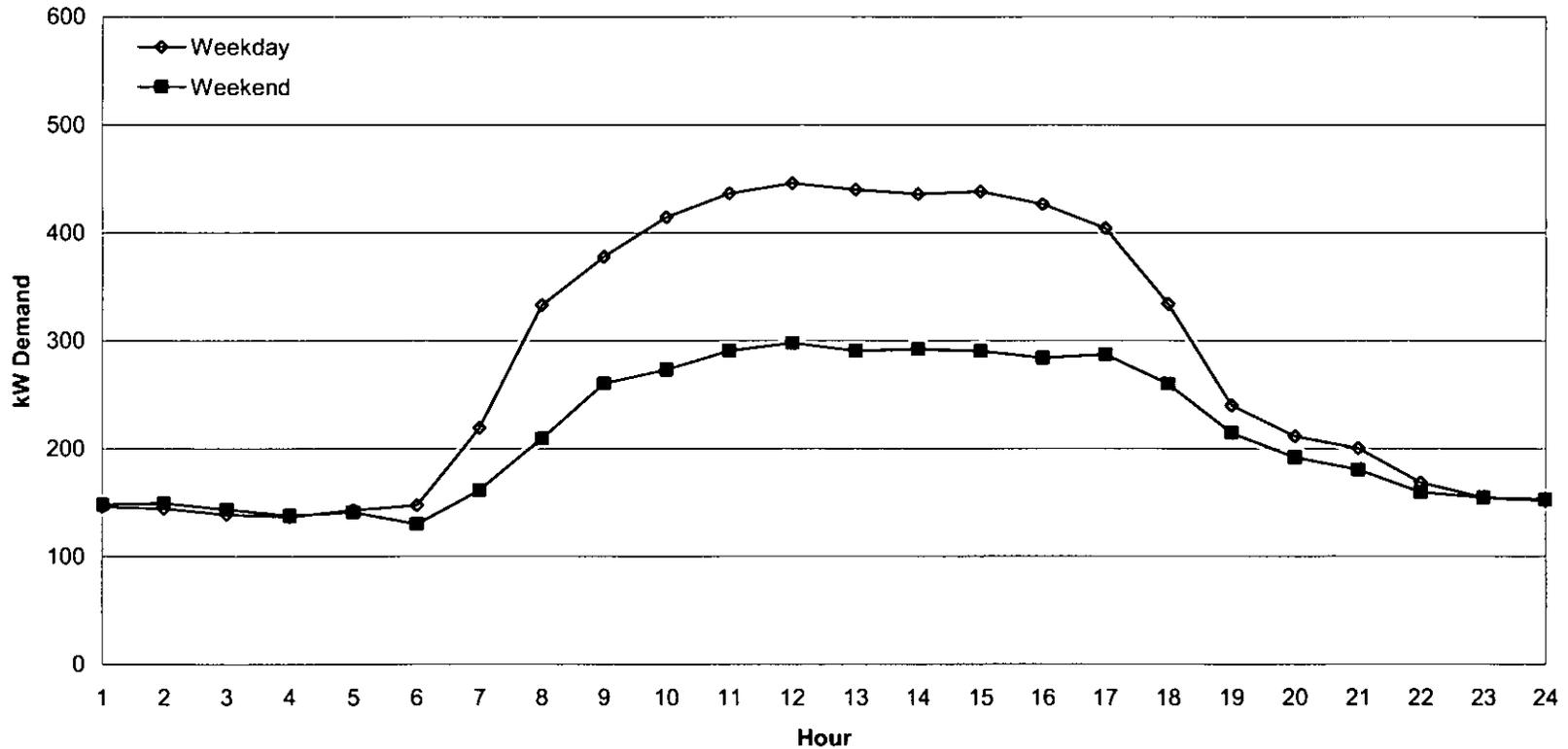
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
October 2005



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Exhibit 8.1 k

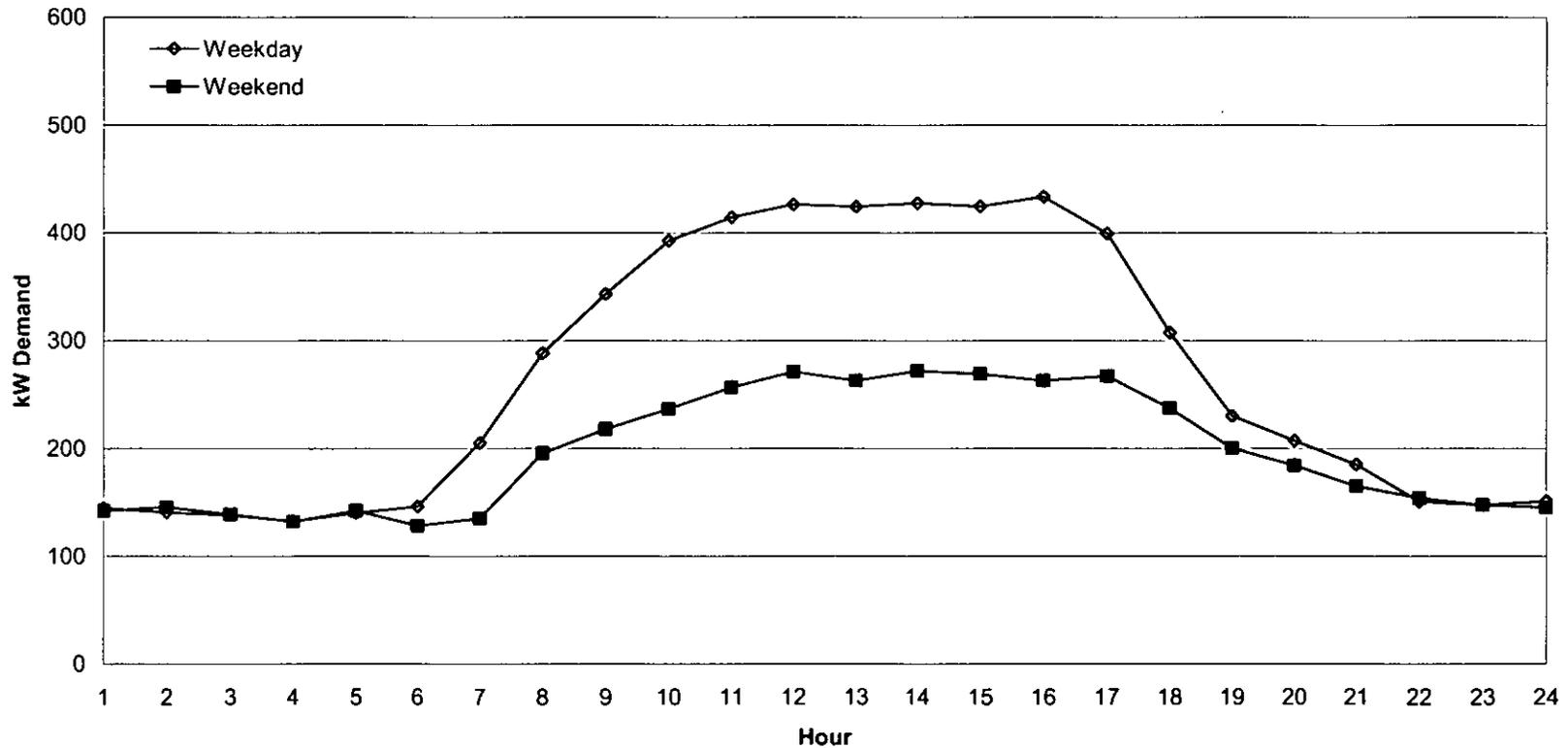
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
November 2005



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Exhibit 8.1 I

AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
December 2005



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9. SCHEDULE P: LARGE POWER SERVICE

The Large Power Service class consists of the largest commercial customers on the Moloka'i system. During 2005 it contained an average of 13 customers, 0.4% of the total, who accounted for 7,894 of sales, or 22% of the total.

Schedule P's load data revealed these patterns and characteristics:

1. During 2005 Schedule P's average monthly consumption ranged from a low of 37,333 kWh in January to a high of 60,894 kWh in November. The weighted average monthly consumption for the nine customers in the sample was 50,366 kWh, which was 4.9% below the average for the population, 52,981 kWh.¹
2. Table 9.1 summarizes the monthly Schedule P load statistics per customer normalized to the sales level. Table 9.1 also shows the non-coincident and coincident demands of the residential sample.

The non-coincident demand is a customer's highest demand during a calendar month. The class non-coincident demand is the total non-coincident demand of all the customers in the class.

The coincident demand of a customer is the demand which a customer puts on the system at a specified time, either the system peak, daytime peak or class peak. The class coincident demand is the total demand of all customers in the class at the specified time.

The diversity factor represents the extent to which the peak demand of each individual customer in the class occurs simultaneously. It is the ratio of the maximum non-coincident demand per customer to the coincident demand per customer at the class peak, expressed as a percent.

The Schedule P sample's average diversity factor was 112%. The average non-coincident demand per customer was 132 kW; the average coincident demand per customer at the class peak was 119 kW. The highest coincident demand and the highest non-coincident demand occurred in November. The maximum coincident demand varied noticeably during the year.

3. The sample's monthly load factor ranged from 53% to 66% during 2005, with an average monthly load factor of 61%.
4. Schedule P's monthly peaks occurred between 9 AM and 3 PM. Its hourly loads on the day of the class peak in each month are reported in Tables 9.2 (total class) and 9.3 (average per customer).

¹ In 2004, the Moloka'i sample design called for all Schedule P customers to be included. By the time data collection began in 2005, however, four customers had transferred from Schedule J to Schedule P. These four accounts raised the population average kWh per month to well above the sample average.

5. Table 9.4 summarizes the class contribution to the system and day peaks normalized to the gross generation. To extrapolate the demand from the sales level to the gross generation, the sample-based estimates for each class of sales at the peak hour were added, and the sum was normalized to the actual system or daytime peak for each month.

Schedule P's average contribution to the monthly system peaks was 17%; its average contribution to the monthly daytime peaks 28%.

Its contribution to the monthly system peaks ranged in amount from 0.9 MW in March to 1.3 MW in January, and in percentage from 14% in March to 20% in January and June.

The contribution to the daytime peak ranged in amount from 1.5 MW in January, February and May to 1.8 MW in March, June, July and October, and in percentage from 25% in May to 30% in March.

6. As shown in Table 9.5, 61% of Schedule P's consumption occurred during the system on-peak period (7 AM to 9 PM daily), with 10% occurring during the system priority peak period (5 PM to 9 PM, Monday through Friday).
7. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 9.6 through 9.9. The gross weekend and weekday loads are graphed in Exhibits 9.1a through 9.11.

In 2005 Schedule P's weekday and weekend load profiles rose to a peak by 11 AM, then declined slowly to an evening plateau which lasted from 6 PM to 9 PM. From 4 AM to 6 PM Schedule P's weekday loads averaged 36% higher than its weekend loads.

Table 9.1
SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
Schedule P: Large Power Service

Average per customer															
Month	Sample Size	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	9	37,333	59%	41%	01/31-12:00	95	69	92	110	117%	53%	45%	86%	63%	83%
February	9	42,027	62%	38%	02/22-15:00	114	65	99	134	118%	55%	47%	85%	49%	74%
March	9	48,472	60%	40%	03/08-12:00	116	69	116	132	114%	56%	49%	87%	52%	87%
April	9	48,374	61%	39%	04/12-14:00	112	70	97	128	114%	60%	53%	88%	54%	76%
May	9	57,612	62%	38%	05/24-12:00	121	110	110	135	111%	64%	57%	90%	82%	82%
June	9	53,526	61%	39%	06/01-11:00	117	106	106	127	109%	64%	58%	92%	84%	84%
July	9	55,032	61%	39%	07/26-14:00	116	110	110	122	105%	64%	60%	95%	90%	90%
August	9	59,443	63%	37%	08/15-13:00	121	119	119	130	107%	66%	62%	93%	92%	92%
September	9	59,450	60%	40%	09/15-10:00	124	112	112	135	109%	66%	61%	92%	83%	83%
October	9	59,414	61%	39%	10/19-11:00	125	78	117	134	107%	64%	60%	94%	59%	88%
November	9	60,894	61%	39%	11/04-11:00	137	80	125	162	118%	62%	52%	85%	49%	77%
December	9	54,192	58%	42%	12/06-14:00	126	72	123	139	110%	58%	53%	91%	52%	89%
Average	9	52,981	61%	39%		119	88	111	132	112%	61%	55%	90%	67%	84%

Notes:

- 1) kW Demand is 60-minute integrated demand.
- 2) On Peak is from 7 am to 9 pm daily.
- 3) Maximum non-coincident kW demand = 0 individual maximum demands, multiplied by the average sales normalization factor.
- 4) Diversity factor = ratio of the weighted sum of the maximum demand of each member of the class to the maximum coincident demand of the entire class.
- 5) Load factor = ratio (as a %) of kWh / (peak demand x number of hours).
- 6) Coincidence factor = ratio (as a %) of the maximum demand of the class to the weighted sum of the maximum demand of each member of the class.

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Table 9.2
 HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	795	825	1,029	878	1,016	1,075	888	516	1,085	1,165	838	1,003
2	739	807	1,152	1,019	1,174	1,173	876	457	1,148	1,101	893	1,000
3	805	847	848	854	1,015	914	1,065	479	1,031	1,081	816	783
4	723	716	844	641	976	782	1,069	479	1,168	874	1,018	817
5	663	825	990	529	915	1,023	947	492	1,122	967	1,090	899
6	466	639	1,223	567	984	1,168	813	520	1,065	1,174	949	1,129
7	673	624	994	723	1,175	1,055	959	589	910	1,180	877	951
8	889	722	1,110	1,183	1,280	1,044	1,237	938	1,106	987	1,165	947
9	1,186	1,080	1,144	1,342	1,366	1,428	1,389	1,340	1,395	1,418	1,387	1,154
10	1,061	1,376	968	1,417	1,213	1,455	1,432	1,319	1,493	1,424	1,391	1,378
11	1,175	1,449	1,219	1,204	1,519	1,518	1,260	1,428	1,385	1,504	1,502	1,187
12	1,323	1,244	1,504	1,184	1,573	1,383	1,201	1,376	1,370	1,466	1,449	1,095
13	1,063	1,222	1,256	1,413	1,505	1,472	1,385	1,451	1,147	1,433	1,210	1,067
14	1,101	1,354	1,277	1,457	1,232	1,408	1,510	1,158	1,231	1,163	1,043	1,389
15	1,012	1,476	1,138	1,174	1,511	1,226	1,379	1,101	1,303	1,125	1,037	1,176
16	1,028	1,183	1,227	1,050	1,386	1,324	1,403	1,320	1,386	1,159	990	1,052
17	1,040	841	1,092	837	1,128	1,100	862	1,049	907	1,011	958	733
18	742	795	991	931	933	954	834	902	672	902	817	765
19	607	948	1,009	915	694	950	952	895	829	896	712	841
20	584	846	1,002	654	960	929	933	913	906	810	920	691
21	701	670	969	827	957	920	902	901	804	635	901	534
22	842	838	1,141	1,096	1,112	1,108	1,128	1,127	878	1,056	1,004	794
23	858	961	912	1,172	1,139	968	1,164	955	1,062	1,129	897	1,063
24	807	1,142	983	911	899	876	833	906	1,205	938	764	1,039
Average	870	976	1,084	999	1,153	1,136	1,101	942	1,109	1,108	1,026	979

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Table 9.3
 HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	57	63	79	68	78	83	68	43	90	97	76	91
2	53	62	89	78	90	90	67	38	96	92	81	91
3	58	65	65	66	78	70	82	40	86	90	74	71
4	52	55	65	49	75	60	82	40	97	73	93	74
5	47	63	76	41	70	79	73	41	94	81	99	82
6	33	49	94	44	76	90	63	43	89	98	86	103
7	48	48	76	56	90	81	74	49	76	98	80	86
8	64	56	85	91	98	80	95	78	92	82	106	86
9	85	83	88	103	105	110	107	112	116	118	126	105
10	76	106	74	109	93	112	110	110	124	119	126	125
11	84	111	94	93	117	117	97	119	115	125	137	108
12	95	96	116	91	121	106	92	115	114	122	132	100
13	76	94	97	109	116	113	107	121	96	119	110	97
14	79	104	98	112	95	108	116	96	103	97	95	126
15	72	114	88	90	116	94	106	92	109	94	94	107
16	73	91	94	81	107	102	108	110	115	97	90	96
17	74	65	84	64	87	85	66	87	76	84	87	67
18	53	61	76	72	72	73	64	75	56	75	74	70
19	43	73	78	70	53	73	73	75	69	75	65	76
20	42	65	77	50	74	71	72	76	75	67	84	63
21	50	52	75	64	74	71	69	75	67	53	82	49
22	60	64	88	84	86	85	87	94	73	88	91	72
23	61	74	70	90	88	74	90	80	88	94	82	97
24	58	88	76	70	69	67	64	76	100	78	69	94
Average	62.2	75.1	83.4	76.9	88.7	87.3	84.7	78.5	92.4	92.4	93.3	89.0

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Table 9.4
CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand at the Gross Level, Normalized

Month	SYSTEM PEAK		DAYTIME PEAK	
	CLASS kW	% OF SYSTEM	CLASS kW	% OF SYSTEM
January	1,258	20%	1,534	27%
February	957	15%	1,530	27%
March	862	14%	1,780	30%
April	1,098	18%	1,575	28%
May	1,135	18%	1,548	25%
June	1,207	20%	1,758	29%
July	1,146	18%	1,779	29%
August	1,123	18%	1,643	27%
September	1,052	17%	1,682	27%
October	1,073	17%	1,772	29%
November	1,065	17%	1,615	27%
December	1,017	16%	1,571	28%
Average	1,083	17%	1,649	28%

Note: The annual instantaneous system peak of 6.35 MW occurred on January 20, 2005 @ 18:08

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Table 9.5
CLASS kWh LOAD BY TIME-OF-USE AT THE SALES LEVEL
 Schedule P: Large Power Service

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	49,225	258,715	214,721	522,661	9%	50%	41%	100%
February	56,303	281,360	208,682	546,345	10%	52%	38%	100%
March	66,779	312,273	251,081	630,133	11%	50%	40%	100%
April	66,918	319,208	242,731	628,857	11%	51%	39%	100%
May	76,604	384,180	288,176	748,960	10%	51%	38%	100%
June	69,691	356,093	270,055	695,838	10%	51%	39%	100%
July	67,872	367,522	280,026	715,421	9%	51%	39%	100%
August	74,040	372,077	267,193	713,310	10%	52%	37%	100%
September	71,788	358,363	283,249	713,399	10%	50%	40%	100%
October	70,244	364,760	277,964	712,967	10%	51%	39%	100%
November	63,496	344,619	261,714	669,829	9%	51%	39%	100%
December	58,900	284,238	252,976	596,114	10%	48%	42%	100%
Total	791,859	4,003,406	3,098,568	7,893,834				
Percent	10%	51%	39%	100%				

Note: Normalized sales from sample estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday 7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

Table 9.6
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	842	898	1,016	1,014	1,116	1,056	989	897	1,045	1,018	997	974
2	796	919	994	990	1,109	1,051	995	951	1,024	1,007	913	940
3	719	841	900	907	1,022	946	935	912	962	951	899	840
4	715	777	769	762	907	891	949	945	1,004	971	877	875
5	741	777	810	709	958	968	935	905	1,050	1,045	961	931
6	775	837	842	823	1,058	1,026	986	913	1,025	1,115	992	1,031
7	814	825	827	925	1,053	1,077	1,010	954	1,001	1,025	981	869
8	906	1,004	1,018	1,169	1,312	1,317	1,230	1,283	1,277	1,266	1,203	958
9	1,106	1,261	1,274	1,383	1,538	1,455	1,402	1,539	1,461	1,529	1,473	1,113
10	1,177	1,236	1,316	1,390	1,563	1,486	1,465	1,542	1,489	1,567	1,481	1,185
11	1,073	1,303	1,208	1,361	1,580	1,499	1,434	1,557	1,483	1,602	1,493	1,209
12	1,023	1,285	1,201	1,276	1,516	1,488	1,387	1,523	1,445	1,594	1,452	1,158
13	955	1,212	1,183	1,268	1,426	1,428	1,341	1,500	1,395	1,530	1,390	1,084
14	981	1,118	1,257	1,312	1,518	1,334	1,302	1,392	1,366	1,475	1,357	1,102
15	1,035	1,130	1,191	1,247	1,508	1,359	1,270	1,344	1,340	1,419	1,350	1,042
16	983	1,120	1,088	1,138	1,414	1,348	1,296	1,331	1,276	1,335	1,266	991
17	798	961	919	880	1,089	1,070	1,099	1,082	1,058	1,066	994	854
18	716	836	869	907	1,020	917	973	978	966	993	982	849
19	744	887	992	992	1,040	964	953	962	1,000	1,002	929	797
20	729	834	858	929	1,080	992	1,012	973	960	937	884	769
21	733	827	811	820	996	939	941	931	947	901	871	730
22	810	882	965	963	1,206	1,107	1,126	1,152	1,192	1,086	1,083	919
23	860	915	1,000	941	1,133	1,054	1,049	1,029	1,121	1,068	1,119	965
24	877	938	1,004	974	1,064	1,024	970	942	1,078	1,014	1,029	976
Average	871	984	1,013	1,045	1,218	1,158	1,127	1,147	1,165	1,188	1,124	965

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Table 9.7
 AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	740	779	927	909	1,005	934	878	801	958	890	896	853
2	734	852	922	917	1,016	947	893	855	949	910	837	835
3	670	761	849	843	959	877	865	846	905	867	843	757
4	660	717	725	735	854	821	896	880	942	878	815	797
5	653	692	736	668	856	881	868	826	947	909	855	831
6	678	743	759	744	962	945	920	862	968	989	908	931
7	744	773	775	856	961	977	901	854	915	943	885	819
8	780	921	876	979	1,102	1,088	1,037	1,039	1,052	1,030	981	825
9	889	1,072	1,083	1,137	1,279	1,223	1,207	1,285	1,257	1,269	1,209	941
10	976	1,080	1,142	1,177	1,323	1,266	1,237	1,301	1,288	1,301	1,222	1,000
11	908	1,129	1,049	1,159	1,343	1,280	1,240	1,331	1,274	1,350	1,254	1,023
12	860	1,129	1,036	1,077	1,312	1,291	1,195	1,297	1,268	1,328	1,231	985
13	810	1,094	1,048	1,101	1,228	1,260	1,181	1,282	1,242	1,310	1,197	944
14	827	981	1,090	1,124	1,280	1,172	1,130	1,180	1,185	1,259	1,181	950
15	865	1,004	1,028	1,086	1,310	1,173	1,116	1,172	1,173	1,212	1,175	919
16	847	1,014	937	1,002	1,231	1,171	1,125	1,159	1,157	1,153	1,117	851
17	681	849	803	789	982	936	964	953	960	945	889	753
18	584	712	740	762	888	789	835	843	831	840	775	698
19	595	718	775	830	891	839	821	830	842	862	806	723
20	631	766	771	826	954	848	869	852	880	840	815	708
21	651	767	749	770	914	843	869	841	866	803	778	676
22	703	813	882	882	1,086	1,004	1,026	1,042	1,082	964	941	836
23	740	819	919	856	1,018	947	956	945	1,021	945	1,013	868
24	761	843	924	876	951	898	873	839	958	886	930	847
Average	749	876	898	921	1,071	1,017	996	1,005	1,038	1,028	981	849

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Table 9.8
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	840	865	922	1,018	1,084	982	1,054	882	1,029	988	970	835
2	883	839	987	981	1,081	997	1,032	968	1,010	963	963	881
3	761	823	876	875	976	934	906	915	919	916	819	812
4	766	606	735	712	783	803	890	873	987	912	840	787
5	603	500	648	645	723	859	917	795	943	988	940	842
6	543	506	619	631	690	908	903	801	880	909	882	868
7	538	496	558	673	787	847	859	753	711	693	835	598
8	597	649	658	766	869	892	924	845	803	760	825	591
9	638	797	780	916	1,009	974	1,074	1,039	997	932	1,035	691
10	708	771	924	933	1,069	1,065	1,090	1,101	1,049	997	1,054	768
11	777	833	960	903	1,035	1,045	1,080	1,148	997	1,000	1,034	819
12	713	774	863	846	1,052	1,020	1,071	1,071	1,036	915	1,033	735
13	658	807	774	840	1,043	1,030	1,094	996	1,046	895	997	675
14	716	754	823	875	1,031	973	1,101	941	1,024	951	975	716
15	705	662	900	913	991	999	1,015	1,019	943	910	1,039	823
16	662	719	858	878	1,028	982	1,045	1,016	1,020	822	951	749
17	656	782	829	827	992	951	1,024	887	1,004	887	864	712
18	748	777	790	806	1,029	932	923	853	984	985	938	726
19	736	840	862	879	970	907	918	886	1,047	997	848	813
20	680	750	828	926	1,032	975	982	925	980	946	798	785
21	663	738	756	869	984	922	975	928	980	902	852	664
22	798	843	898	915	1,113	1,069	1,164	1,083	1,171	1,093	986	883
23	873	873	896	920	1,005	992	1,072	961	1,106	1,018	935	922
24	880	889	898	969	1,040	934	929	903	1,050	1,015	938	882
Average	714	746	818	855	976	958	1,002	941	988	933	931	774

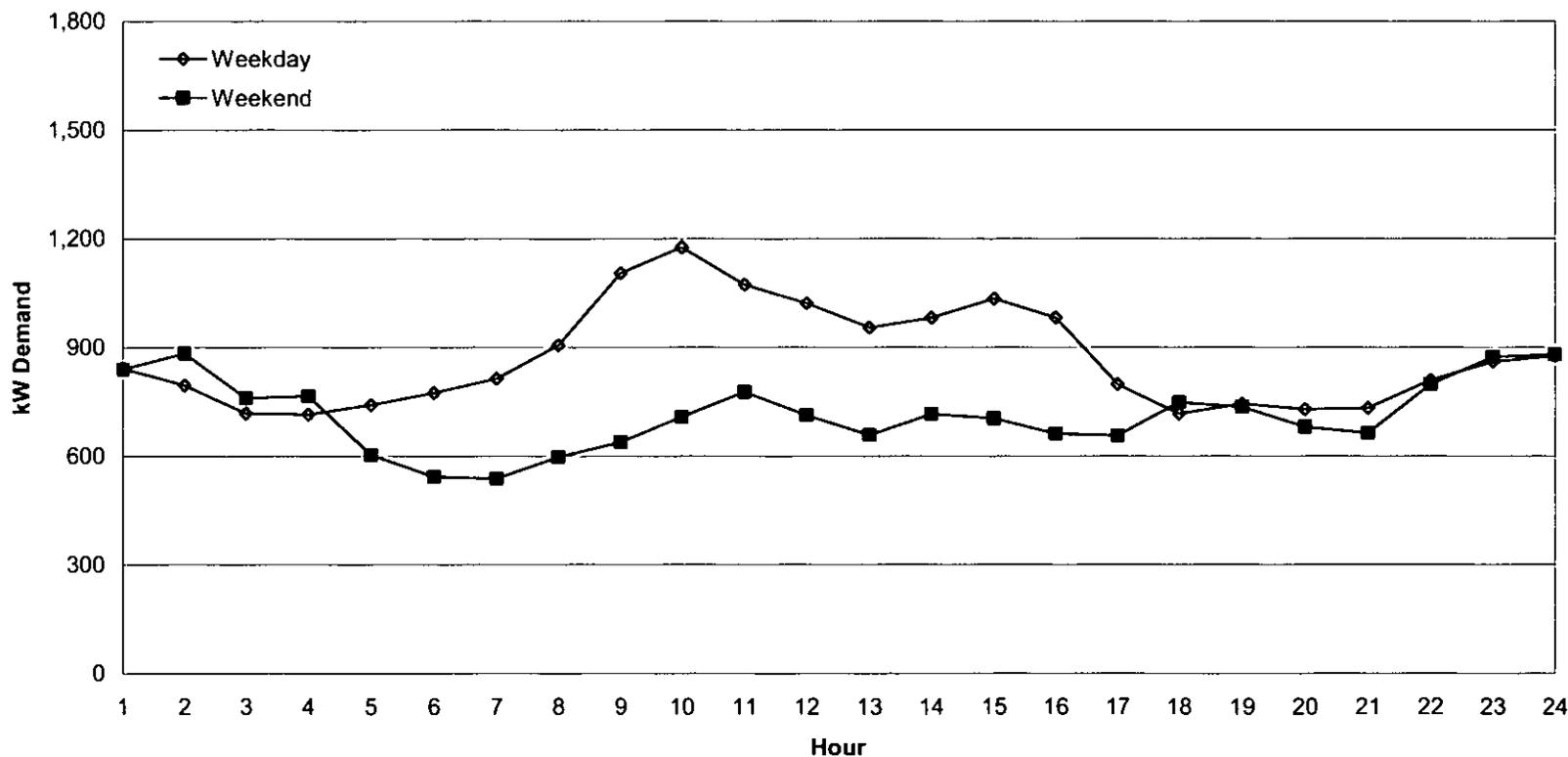
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Table 9.9
 AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	714	773	803	886	959	855	919	773	906	845	871	756
2	798	743	889	912	988	900	942	888	918	870	869	778
3	689	768	796	788	904	862	834	838	832	810	755	743
4	687	566	697	679	723	754	849	835	900	823	780	728
5	547	461	584	594	667	778	861	732	862	878	867	772
6	502	486	580	610	674	880	894	821	883	884	885	856
7	519	510	554	658	744	807	794	733	684	673	774	629
8	509	580	587	673	762	767	806	729	702	647	710	513
9	517	713	677	784	886	823	947	891	869	769	842	600
10	607	690	793	831	923	909	969	958	900	831	883	670
11	663	732	810	807	912	903	940	997	864	841	881	716
12	613	695	741	731	934	883	938	939	906	762	895	635
13	566	737	683	727	914	892	974	870	929	744	885	615
14	593	700	716	771	893	851	978	812	893	816	868	631
15	595	602	774	798	853	864	886	903	801	789	930	733
16	561	644	726	762	905	857	914	891	882	687	855	680
17	538	670	709	714	878	834	887	801	879	746	735	609
18	605	670	661	698	878	823	826	739	860	810	766	620
19	608	690	690	743	860	813	818	798	886	837	767	752
20	601	731	745	828	890	841	866	839	902	862	750	722
21	595	720	718	793	910	832	878	847	887	804	780	631
22	696	822	816	824	1,020	946	1,060	995	1,056	968	875	786
23	747	790	793	816	908	867	955	877	992	889	822	852
24	743	816	807	872	926	818	849	808	932	879	825	808
Average	617	680	723	762	871	848	899	846	880	811	828	702

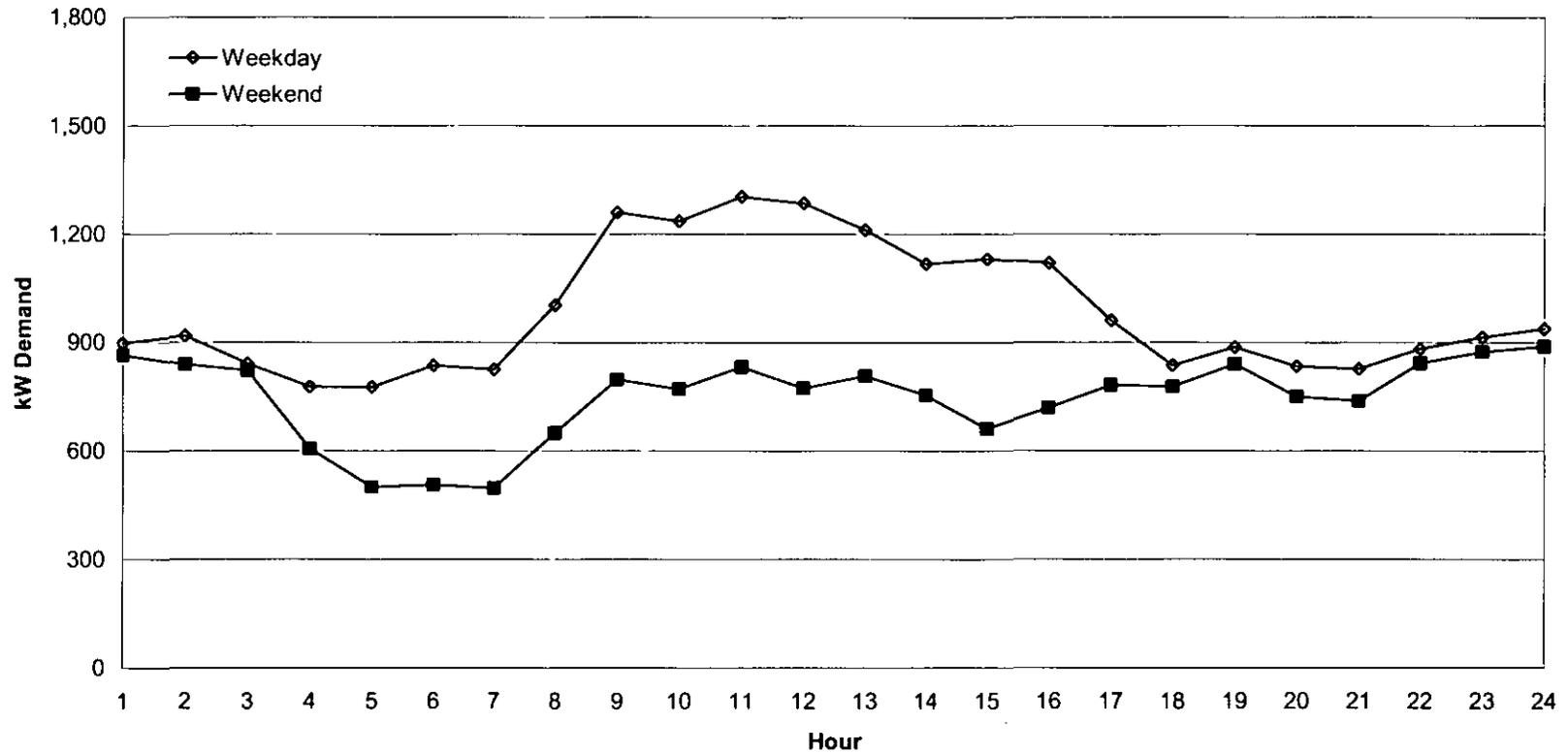
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Exhibit 9.1 a
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 January 2005



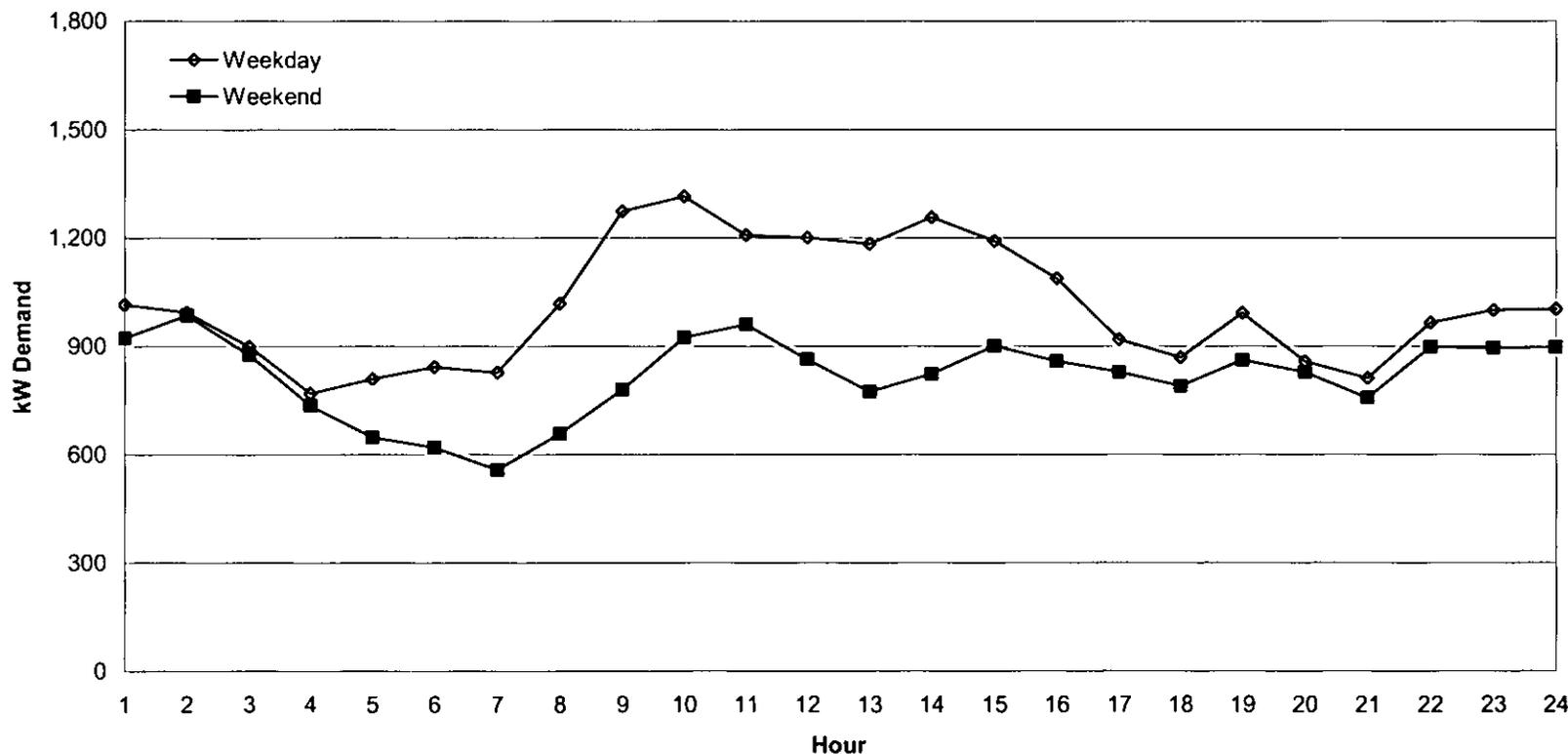
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Exhibit 9.1 b
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 February 2005



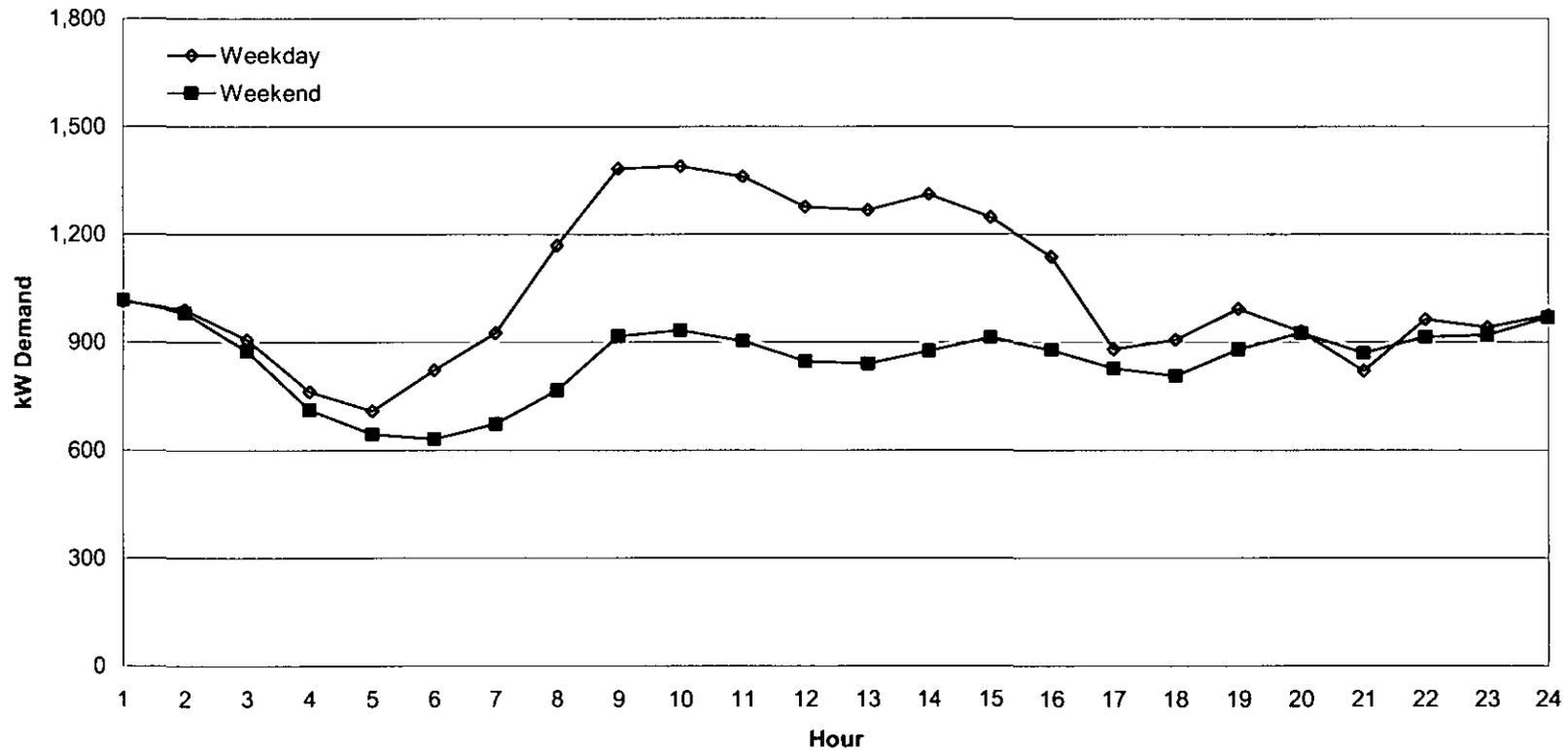
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Exhibit 9.1 c
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 March 2005



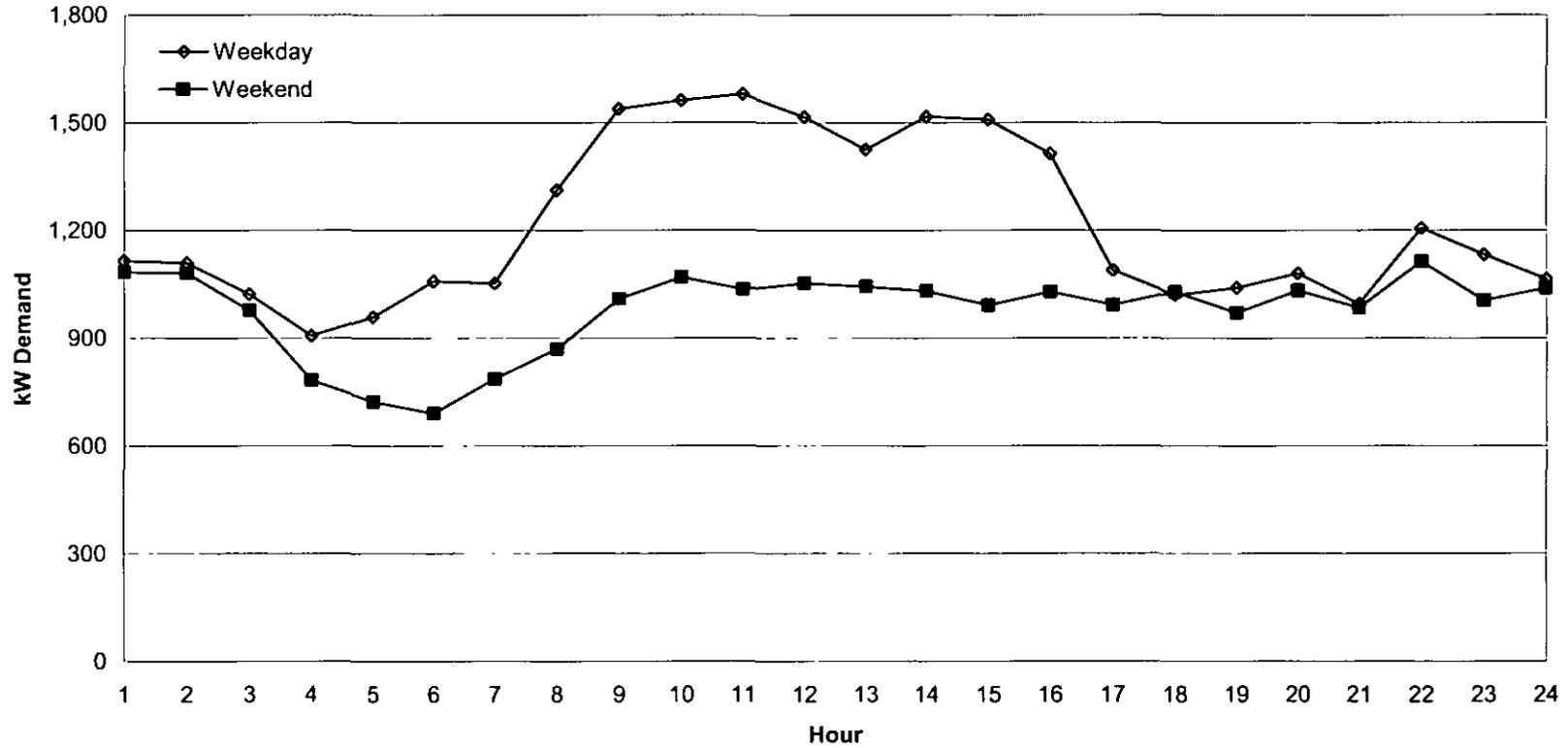
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Exhibit 9.1 d
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 April 2005



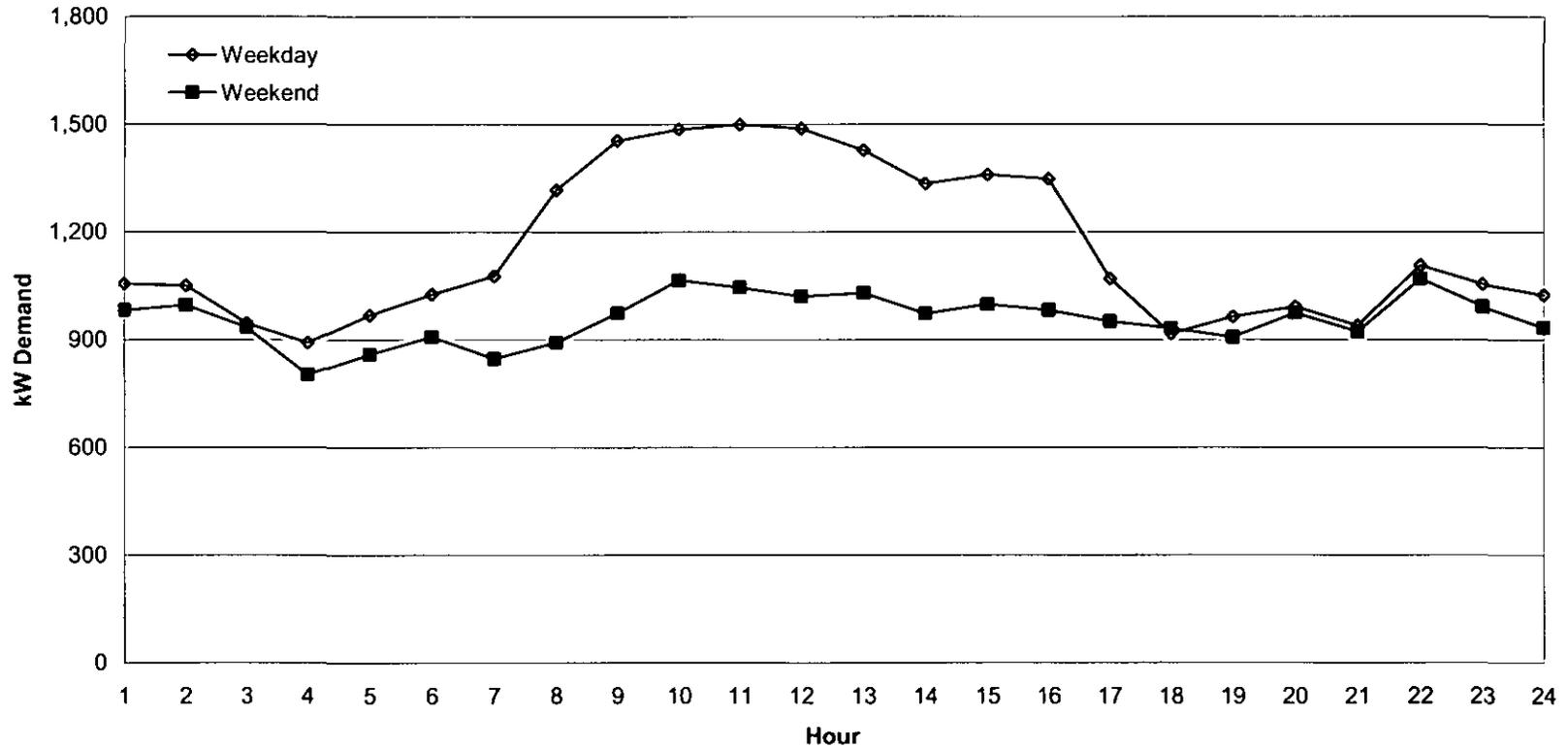
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Exhibit 9.1 e
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 May 2005



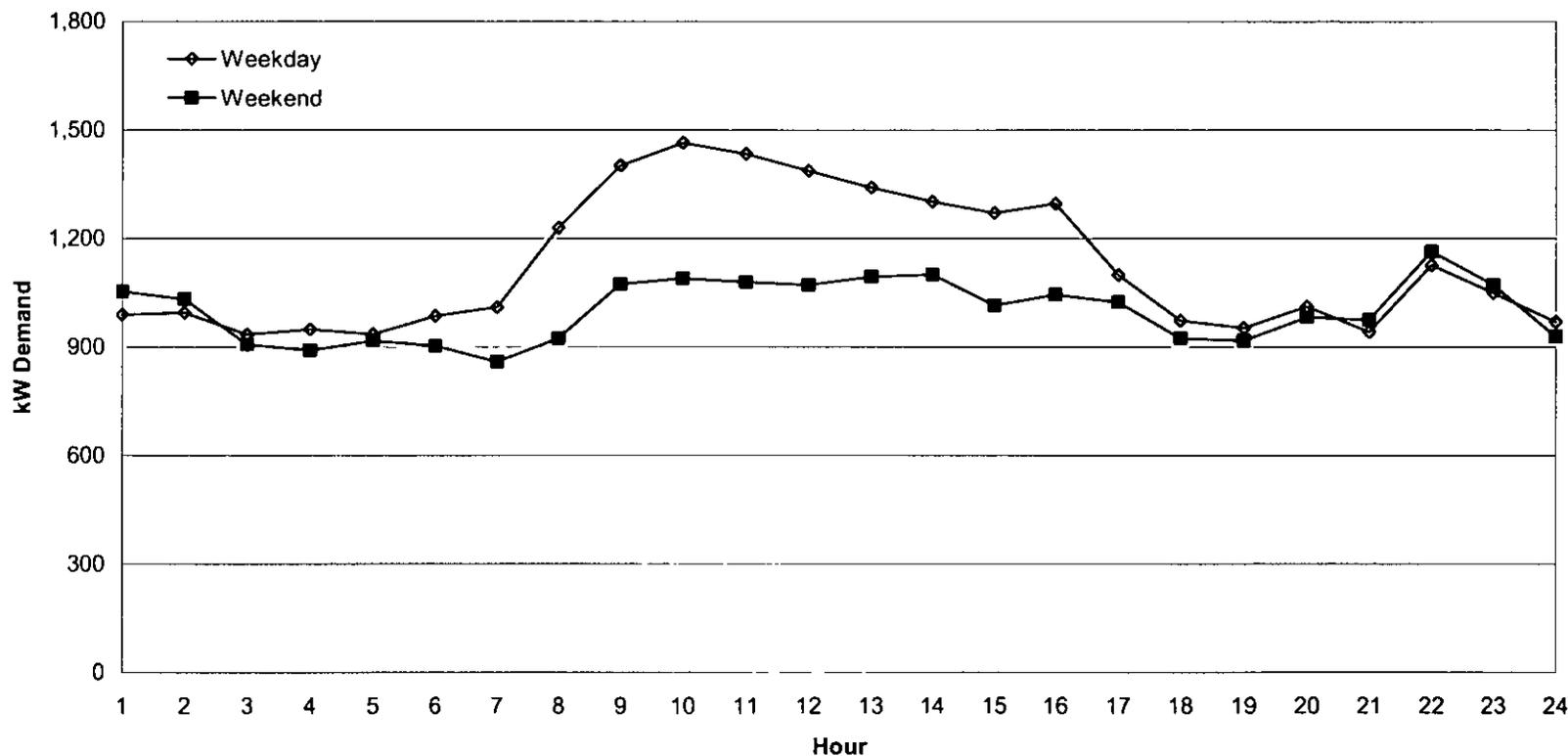
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Exhibit 9.1 f
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 June 2005



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Exhibit 9.1 g
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 July 2005



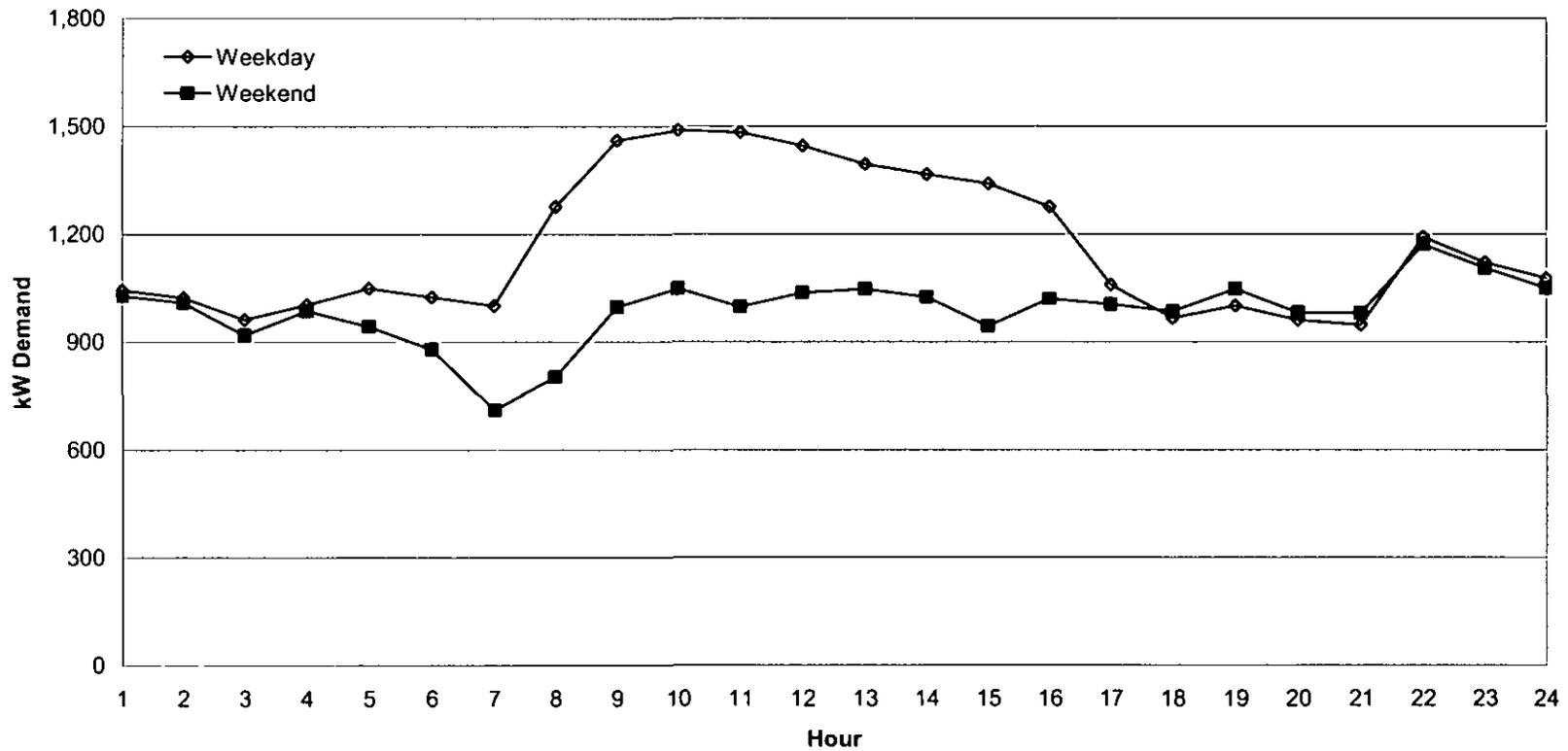
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Exhibit 9.1 h
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 August 2005



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Exhibit 9.1 i
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 September 2005



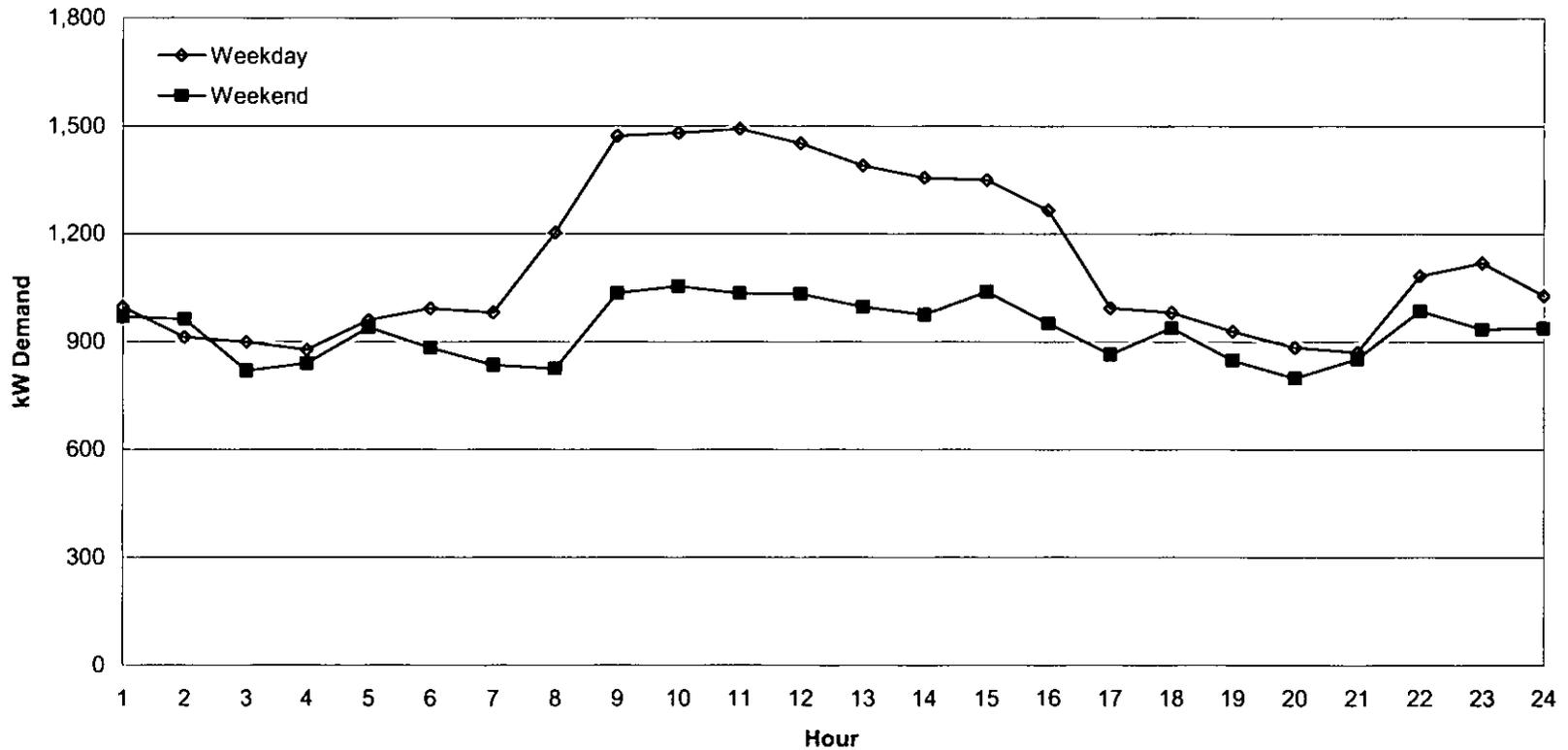
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Exhibit 9.1 j
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 October 2005



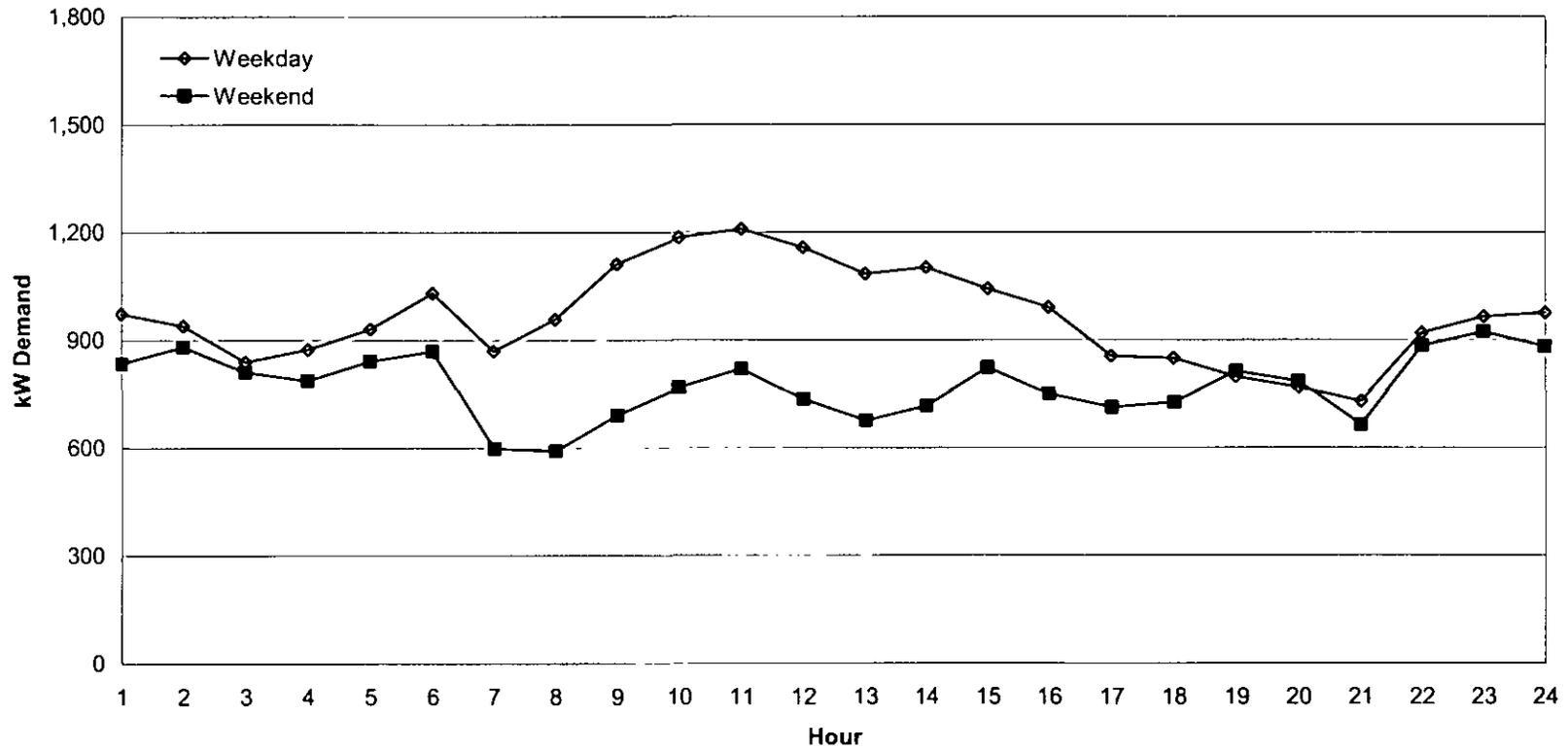
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Exhibit 9.1 k
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 November 2005



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Exhibit 9.11
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 December 2005



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10. SCHEDULE F: PUBLIC STREET LIGHTING SERVICE

Public street lighting service accounts for the smallest amount of sales on Moloka'i. During 2005, nine Schedule F customers accounted for 1% of sales, with a total consumption of 477 MWh, or 4,413 kWh per customer.

The public street lighting load profile was constructed using recorded billing data and the monthly average times for sunrise and sunset for Kaunakakai. The times of sunrise and sunset for each day of the year were obtained from the United States Naval Observatory. The averages for each month are shown in Table 10.1. The allocation of monthly kWh to hours of the day is shown in Table 10.2. The same photoelectric lighting control specifications that were used in the Maui Electric Company's 1983 Load Research Study were used in determining the on and off times for the street lights.

The Schedule F load data revealed these patterns and characteristics:

1. During 2005, public street lighting customers' average monthly kWh ranged from a low of 3,769 in February to a high of 4,667 in May.
2. In constructing the class load it was assumed that the entire class had identical load profiles; therefore, the class peak demand per customer and the non-coincident demand per customer were equal. The hourly load data for the class peak day of each month is provided in Table 10.4.
3. Shown in Table 10.6, Schedule F's contribution to the system peak ranged from zero in March and June to 0.1 MW in February, April, May, November and December.
4. Schedule F does not contribute to the day peak.
5. Table 10.7 shows that 82% of total consumption occurred during the off-peak period, 13% occurred during the priority peak period, and 6% occurred during the on-peak period. (Totals add to 101% due to rounding.)
6. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 10.8 through 10.11. The gross weekend and weekday loads are graphed in Exhibits 10.1a through 10.11. Manually generating the load profile resulted in all the days of a given month having nearly identical load shapes.

Table 10.1
ESTIMATED STREET LIGHTING HOURS
Schedule F: Public Street Lighting

Month	Mean Sunrise and Sunset Times ¹		Adjustment for Darkness Level (min) ²	Streetlight Turn Off and Turn On Times		Fraction of Time Streetlights Are On During the First and Last 15 Min Periods of the Day		Average Number of Lighting Hours Hours per Day
	Sunrise	Sunset		Turn Off	Turn On	First	Last	
January	7:07	18:08	0:25	6:42	18:33	12/15	12/15	12:09
February	6:57	18:26	0:25	6:32	18:51	2/15	9/15	11:41
March	6:35	18:37	0:25	6:10	19:02	10/15	13/15	11:08
April	6:08	18:47	0:25	5:43	19:12	13/15	4/15	10:31
May	5:50	18:59	0:25	5:25	19:24	10/15	6/15	10:01
June	5:47	19:10	0:25	5:22	19:35	7/15	10/15	9:47
July	5:55	19:11	0:25	5:30	19:36	0/15	9/15	9:54
August	6:07	18:56	0:25	5:42	19:21	12/15	9/15	10:21
September	6:15	18:30	0:25	5:50	18:55	5/15	5/15	10:55
October	6:24	18:03	0:25	5:59	18:28	14/15	2/15	11:31
November	6:39	17:47	0:25	6:14	18:12	14/15	3/15	12:02
December	6:57	17:50	0:25	6:32	18:15	2/15	0/15	12:17

¹ Arithmetic average of daily sunrise/sunset times for Kaunakakai; derived from daily times provided by the United States Naval Observatory at http://aa.usno.navy.mil/cgi-bin/aa_rstablew.pl

² Subtracted from the time of sunrise, and added to the time of sunset. Based on the Ripley Model 7051-250V photoelectric lighting control specification used for analysis in the Maui Electric Company, Ltd.'s 1983 Load Research Study.

Table 10.2
SIMULATED LOAD DATA
Schedule F: Public Street Lighting

<u>Month</u>	<u>kWh</u>	<u>Full Hours On</u>	<u>Fractional Hours On</u>	<u>Days per Month</u>	<u>15 Minute Intervals per Month</u>	<u>Intervals On</u>	<u>kW per Hour</u>
January	41,997	12	0.15	31	2,976	1,507	112
February	33,922	11	0.68	28	2,688	1,309	104
March	40,586	11	0.13	31	2,976	1,381	118
April	40,612	10	0.52	30	2,880	1,262	129
May	42,006	10	0.02	31	2,976	1,242	135
June	36,329	9	0.78	30	2,880	1,174	124
July	41,664	9	0.90	31	2,976	1,228	136
August	38,709	10	0.35	31	2,976	1,283	121
September	40,299	10	0.92	30	2,880	1,310	123
October	41,444	11	0.52	31	2,976	1,428	116
November	37,430	12	0.03	30	2,880	1,444	104
December	41,613	12	0.28	31	2,976	1,523	109
Total kWh	476,611						
Total hours	4,022						
kW per hour	118						

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Table 10.3
 SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
 Schedule F: Public Street Lighting

Average per customer															
Month	Customers	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	9	4,666	20%	80%	CONSTRUCTE	12.4	0.0	0.0	12.4	100%	51%	51%	100%	0%	0%
February	9	3,769	18%	82%	LOAD	11.5	11.5	0.0	11.5	100%	44%	44%	100%	100%	0%
March	9	4,510	18%	82%		13.1	0.0	0.0	13.1	100%	46%	46%	100%	0%	0%
April	9	4,512	17%	83%	EACH DAY	14.3	11.4	0.0	14.3	100%	42%	42%	100%	80%	0%
May	9	4,667	16%	84%	HAS THE	15.0	9.0	0.0	15.0	100%	42%	42%	100%	60%	0%
June	9	4,037	14%	86%	SAME PEAK	13.8	0.0	0.0	13.8	100%	39%	39%	100%	0%	0%
July	9	4,629	14%	86%		15.1	6.0	0.0	15.1	100%	41%	41%	100%	40%	0%
August	9	4,301	16%	84%		13.4	8.7	0.0	13.4	100%	43%	43%	100%	65%	0%
September	9	4,478	19%	81%		13.7	0.0	0.0	13.7	100%	44%	44%	100%	0%	0%
October	9	4,605	22%	78%		12.9	6.9	0.0	12.9	100%	48%	48%	100%	53%	0%
November	9	4,159	23%	77%		11.5	9.2	0.0	11.5	100%	49%	49%	100%	80%	0%
December	9	4,624	22%	78%		12.1	9.1	0.0	12.1	100%	51%	51%	100%	75%	0%
Average	9	4,413	18%	82%		13.2	6.0	0.0	13.2	100%	45%	45%	100%	46%	0%

Notes:

- 1) kW Demand is constructed 60-minute integrated demand.
- 2) Customers = average number of customers on the system from January 1, 2005 to December 31, 2005 (not a sample).
- 3) At the times of the system peaks in March and June the streetlights had not yet come on.
- 4) Maximum non-coincident kW demand = individual maximum demands, weighted by stratum.
- 5) Diversity factor = ratio of the weighted sum of the individual maximum demands of the members of the class to the maximum coincident demand of the class as a whole.
- 6) Load factor = ratio expressed in % of kWh / (peak demand x number of hours).
- 7) Coincidence factor = ratio expressed in % of the maximum demand of the class to the weighted sum of the individual maximum demands of the members of the class.

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Table 10.4
 HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	112	104	118	129	135	124	136	121	123	116	104	109
2	112	104	118	129	135	124	136	121	123	116	104	109
3	112	104	118	129	135	124	136	121	123	116	104	109
4	112	104	118	129	135	124	136	121	123	116	104	109
5	112	104	118	129	135	124	136	121	123	116	104	109
6	112	104	118	92	56	45	68	84	103	114	104	109
7	78	55	20	0	0	0	0	0	0	0	24	58
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	50	16	0	0	0	0	0	0	10	62	83	82
20	112	104	114	103	81	52	54	78	123	116	104	109
21	112	104	118	129	135	124	136	121	123	116	104	109
22	112	104	118	129	135	124	136	121	123	116	104	109
23	112	104	118	129	135	124	136	121	123	116	104	109
24	112	104	118	129	135	124	136	121	123	116	104	109
Average	56	50	55	56	56	50	56	52	56	56	52	56

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Table 10.5
 HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
2	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
3	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
4	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
5	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
6	12.4	11.5	13.1	10.3	6.3	5.0	7.5	9.4	11.4	12.7	11.5	12.1
7	8.7	6.1	2.2	-	-	-	-	-	-	-	2.7	6.5
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	5.6	1.7	-	-	-	-	-	-	1.1	6.9	9.2	9.1
20	12.4	11.5	12.6	11.4	9.0	5.7	6.0	8.7	13.7	12.9	11.5	12.1
21	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
22	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
23	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
24	12.4	11.5	13.1	14.3	15.0	13.8	15.1	13.4	13.7	12.9	11.5	12.1
Average	6.3	5.6	6.1	6.3	6.3	5.6	6.2	5.8	6.2	6.2	5.8	6.2

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Table 10.6
CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand at the Gross Level, Normalized

Month	SYSTEM PEAK		DAYTIME PEAK	
	CLASS kW	% OF SYSTEM	CLASS kW	% OF SYSTEM
January	65	1%	0	0%
February	117	2%	0	0%
March	0	0%	0	0%
April	125	2%	0	0%
May	101	2%	0	0%
June	0	0%	0	0%
July	68	1%	0	0%
August	93	2%	0	0%
September	12	0%	0	0%
October	71	1%	0	0%
November	101	2%	0	0%
December	105	2%	0	0%
Average	72	1%	0	0%

Note: The annual instantaneous system peak of 5.2 MW occurred on December 27, 2005 @ 18:35

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Table 10.7
CLASS kWh LOAD BY TIME-OF-USE AT SALES LEVEL
 Schedule F: Public Street Lighting

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	5,464	3,005	33,528	41,997	13%	7%	80%	100%
February	4,236	2,006	27,680	33,922	12%	6%	82%	100%
March	5,088	2,081	33,417	40,586	13%	5%	82%	100%
April	4,866	2,085	33,661	40,612	12%	5%	83%	100%
May	4,545	2,164	35,296	42,006	11%	5%	84%	100%
June	3,682	1,578	31,068	36,329	10%	4%	86%	100%
July	3,801	2,091	35,772	41,664	9%	5%	86%	100%
August	4,379	1,792	32,538	38,709	11%	5%	84%	100%
September	5,383	2,307	32,608	40,299	13%	6%	81%	100%
October	6,176	2,941	32,328	41,444	15%	7%	78%	100%
November	5,806	2,903	28,721	37,430	16%	8%	77%	100%
December	6,311	3,005	32,297	41,613	15%	7%	78%	100%
Total	59,738	27,959	388,913	476,611				
Percent	13%	6%	82%	100%				

Note: Normalized sales from constructed estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday
7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

Table 10.8
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	127	120	129	144	150	140	153	135	134	133	115	125
2	121	112	127	139	148	137	151	134	133	129	113	123
3	120	115	125	138	144	133	147	130	131	127	111	121
4	121	112	125	133	144	134	144	130	131	128	112	120
5	126	116	130	137	151	136	146	132	136	134	116	122
6	127	117	130	102	62	49	73	89	109	129	113	121
7	85	59	21	0	0	0	0	0	0	0	27	62
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	63	19	0	0	0	0	0	0	12	72	96	90
20	129	113	126	116	92	60	63	90	134	130	112	119
21	126	112	127	137	147	138	147	133	135	130	116	118
22	128	112	129	141	150	136	149	133	136	131	119	120
23	130	116	128	142	150	138	149	131	135	131	115	121
24	128	115	128	143	151	141	151	136	139	133	115	126
Average	64	56	59	61	62	56	61	57	61	63	57	62

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Table 10.9
 AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	112	104	118	129	135	124	136	121	123	116	104	109
2	112	104	118	129	135	124	136	121	123	116	104	109
3	112	104	118	129	135	124	136	121	123	116	104	109
4	112	104	118	129	135	124	136	121	123	116	104	109
5	112	104	118	129	135	124	136	121	123	116	104	109
6	112	104	118	92	56	45	68	84	103	114	104	109
7	78	55	20	0	0	0	0	0	0	0	24	58
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	50	16	0	0	0	0	0	0	10	62	83	82
20	112	104	114	103	81	52	54	78	123	116	104	109
21	112	104	118	129	135	124	136	121	123	116	104	109
22	112	104	118	129	135	124	136	121	123	116	104	109
23	112	104	118	129	135	124	136	121	123	116	104	109
24	112	104	118	129	135	124	136	121	123	116	104	109
Average	56	50	55	56	56	50	56	52	56	56	52	56

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Table 10.10
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	131	116	135	148	153	142	156	138	140	136	115	121
2	123	117	130	139	148	137	149	132	135	128	115	124
3	123	111	129	143	146	134	148	132	136	131	113	119
4	124	111	124	135	146	132	142	126	135	129	112	118
5	123	113	130	140	147	137	145	131	135	131	113	119
6	121	108	125	95	58	47	69	82	102	117	103	111
7	81	54	20	0	0	0	0	0	0	0	26	55
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	61	19	0	0	0	0	0	0	12	74	92	89
20	126	106	126	115	94	60	62	86	134	127	110	119
21	124	106	124	141	146	137	151	132	136	130	113	115
22	128	106	129	143	148	140	149	131	136	131	117	123
23	130	115	133	145	150	142	152	132	137	133	118	118
24	132	113	131	143	152	141	149	135	139	134	118	119
Average	64	54	60	62	62	56	61	57	62	63	57	60

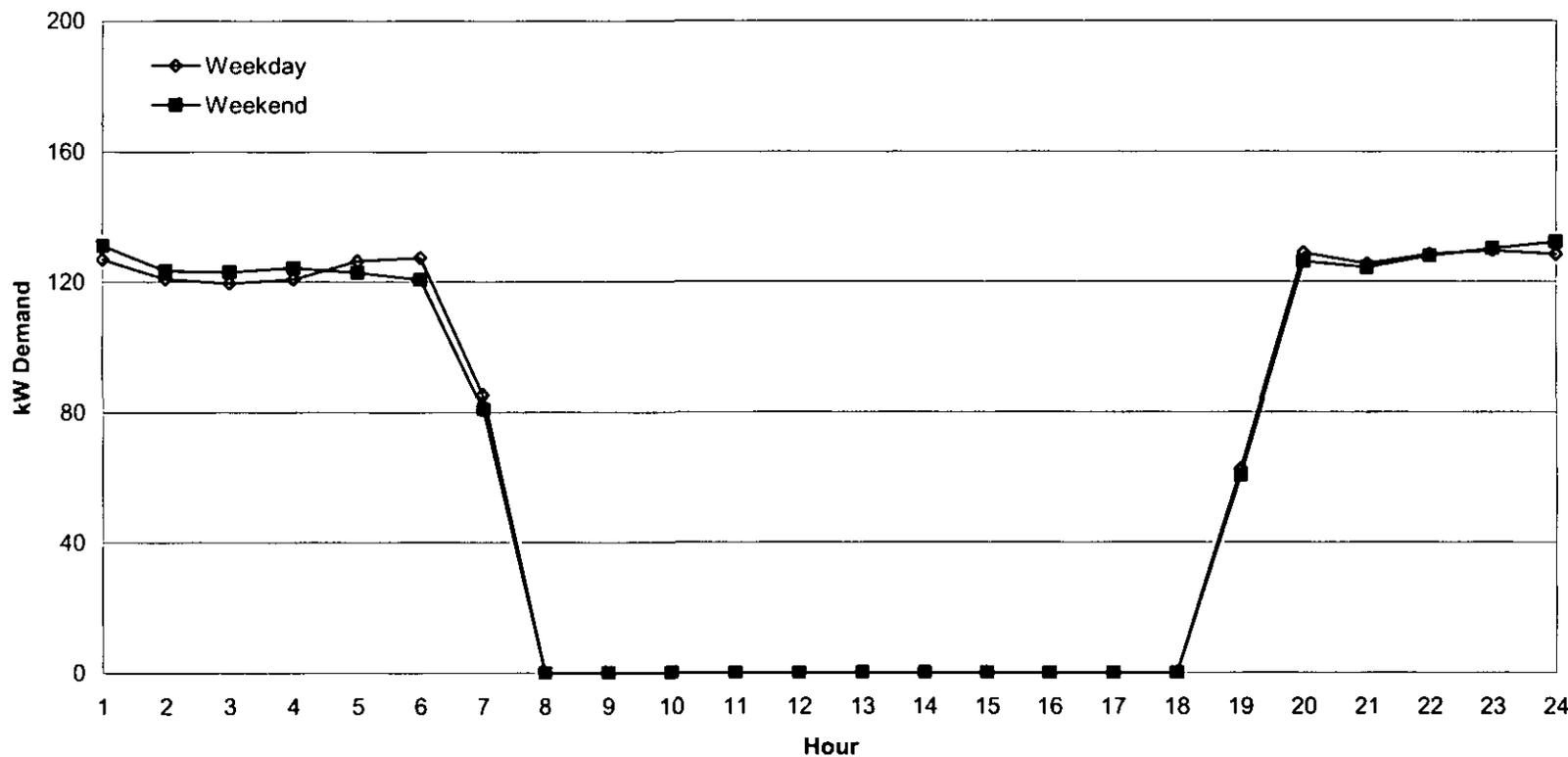
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Table 10.11
 AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	112	104	118	129	135	124	136	121	123	116	104	109
2	112	104	118	129	135	124	136	121	123	116	104	109
3	112	104	118	129	135	124	136	121	123	116	104	109
4	112	104	118	129	135	124	136	121	123	116	104	109
5	112	104	118	129	135	124	136	121	123	116	104	109
6	112	104	118	92	56	45	68	84	103	114	104	109
7	78	55	20	0	0	0	0	0	0	0	24	58
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	50	16	0	0	0	0	0	0	10	62	83	82
20	112	104	114	103	81	52	54	78	123	116	104	109
21	112	104	118	129	135	124	136	121	123	116	104	109
22	112	104	118	129	135	124	136	121	123	116	104	109
23	112	104	118	129	135	124	136	121	123	116	104	109
24	112	104	118	129	135	124	136	121	123	116	104	109
Average	56	50	55	56	56	50	56	52	56	56	52	56

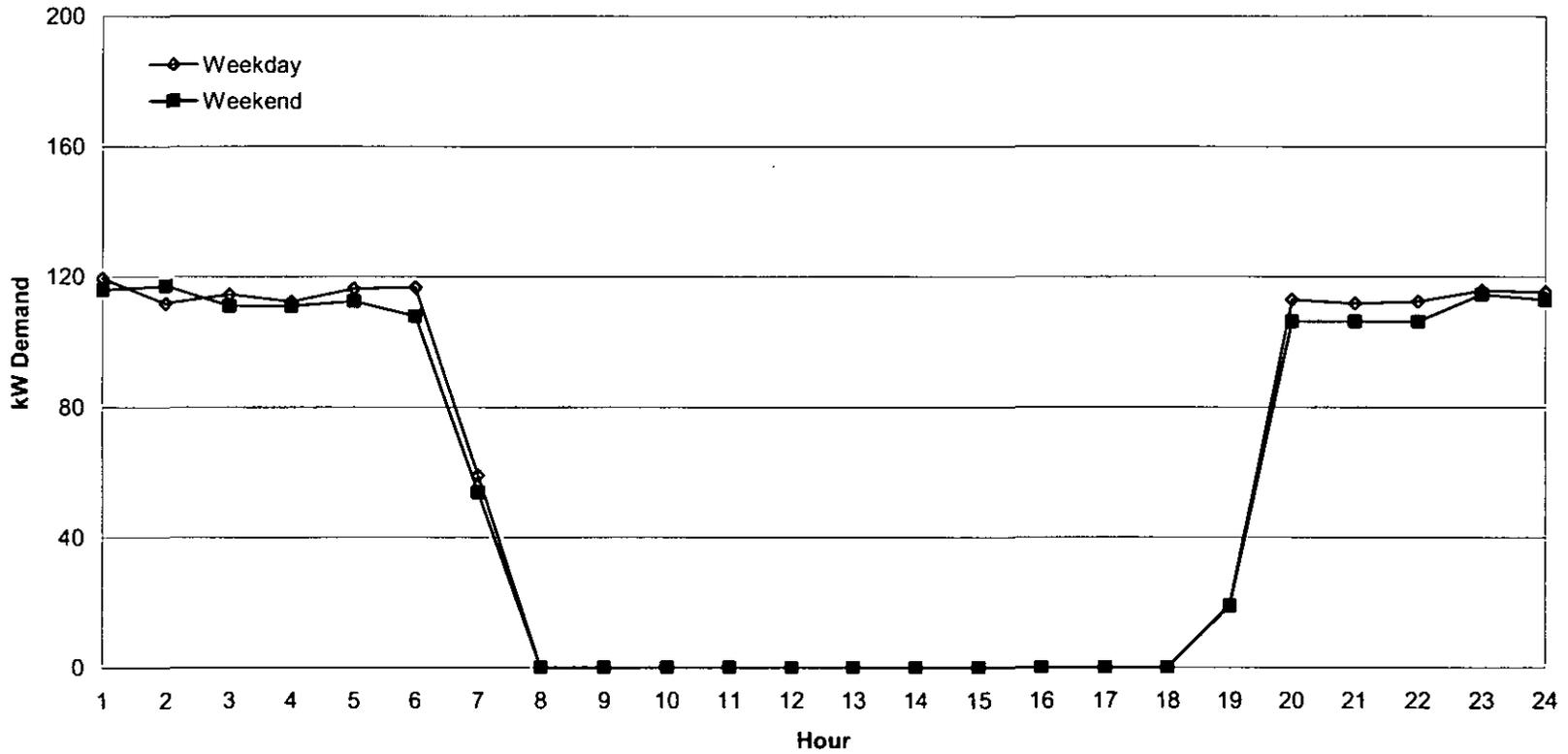
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Exhibit 10.1 a
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 January 2005



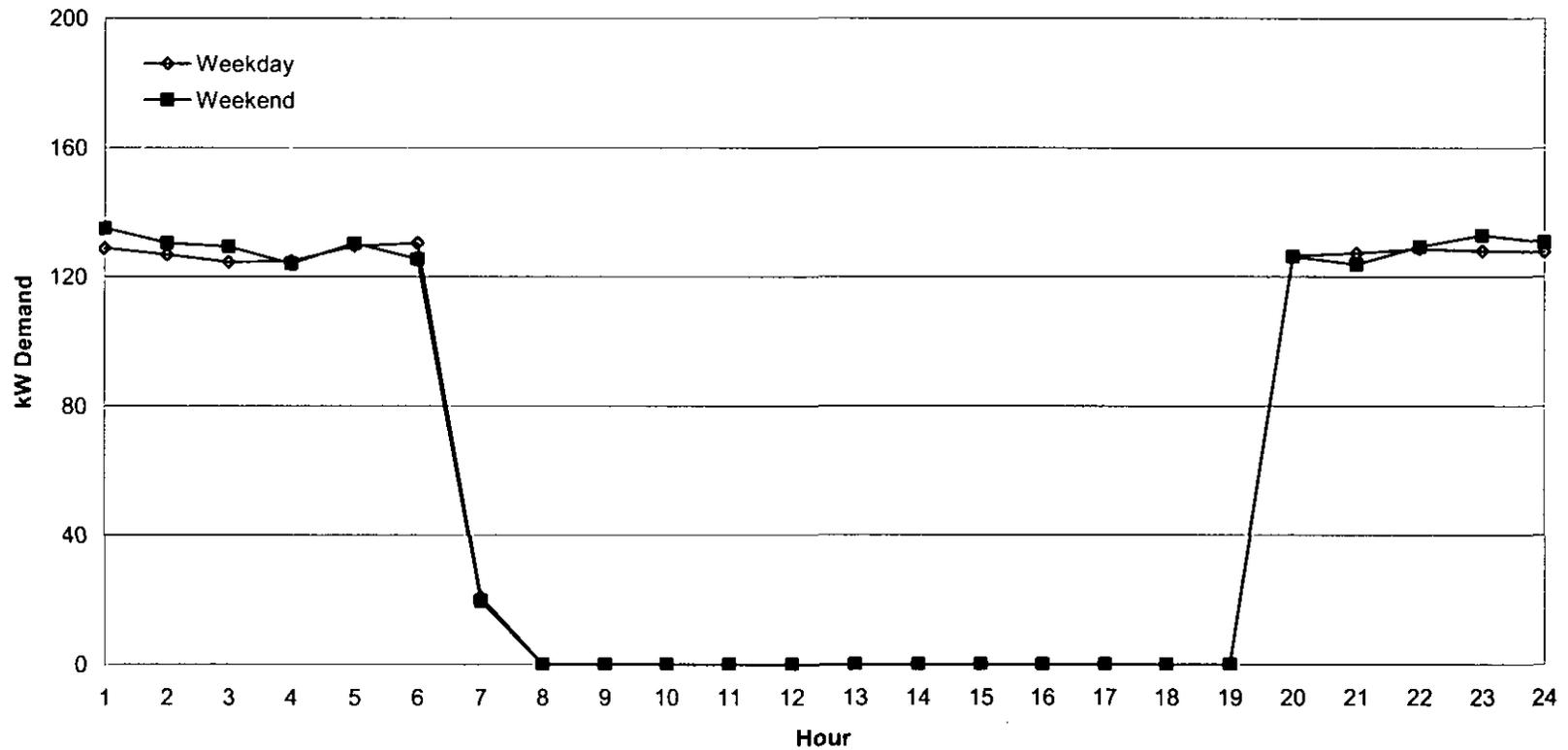
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Exhibit 10.1 b
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 February 2005



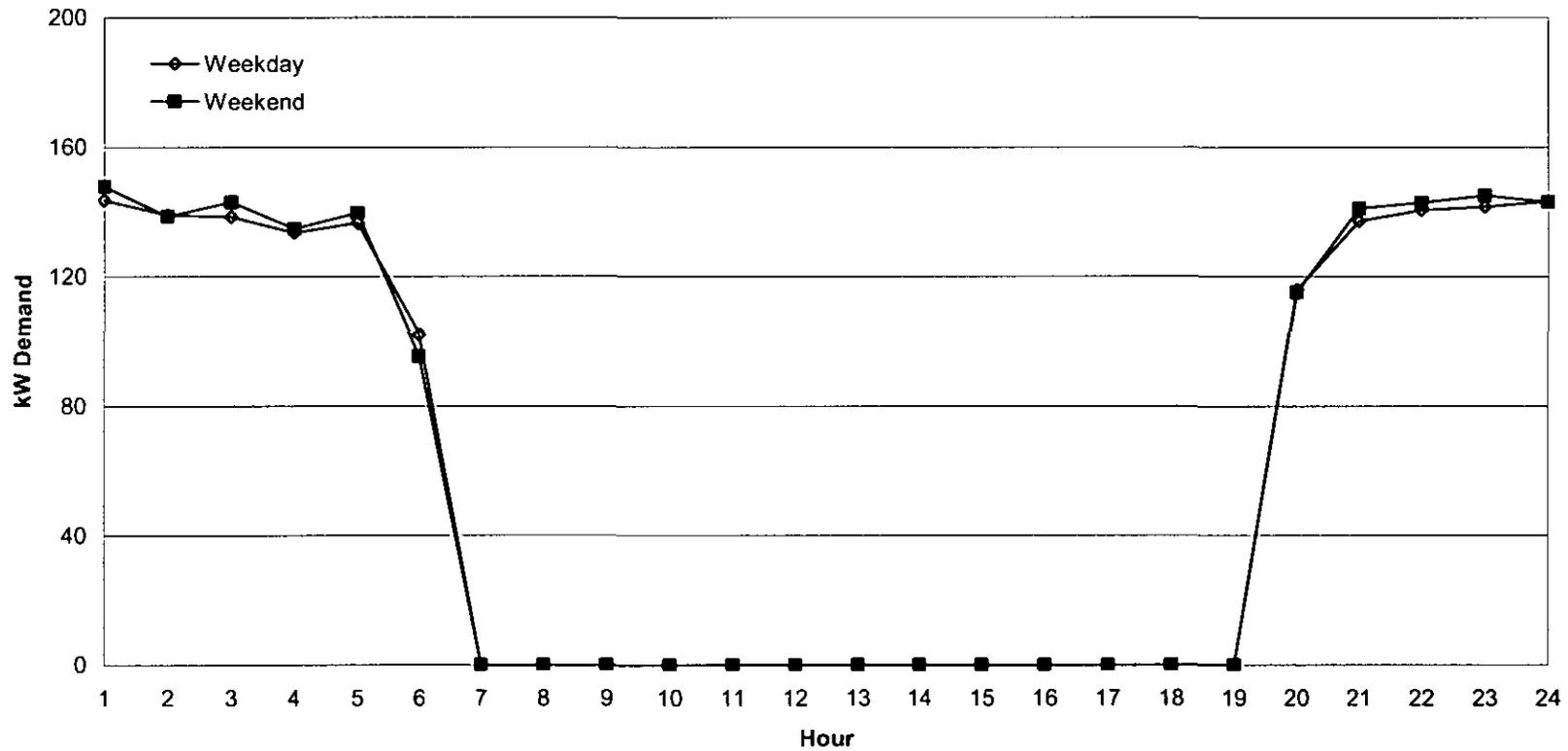
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Exhibit 10.1 c
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 March 2005



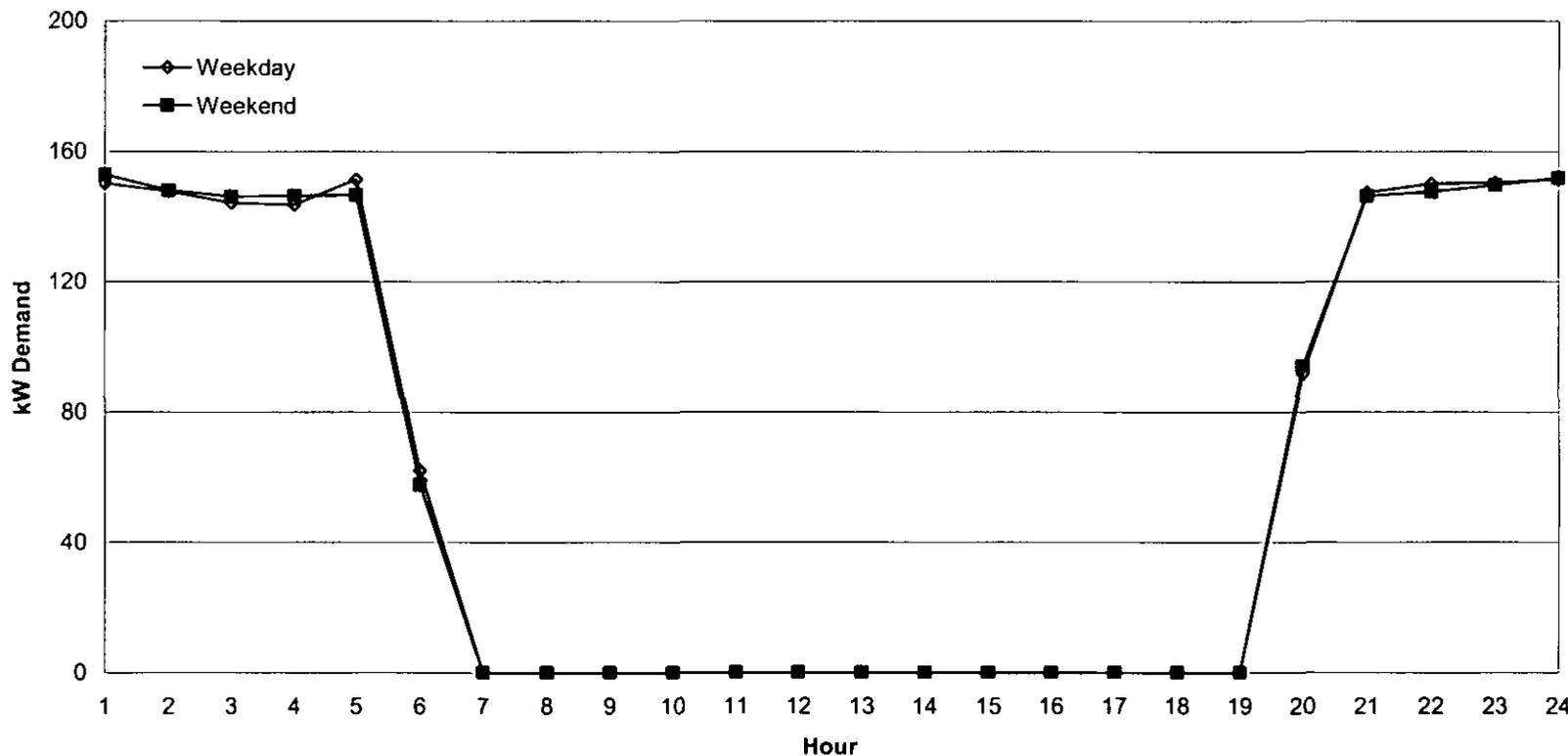
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Exhibit 10.1 d
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 April 2005



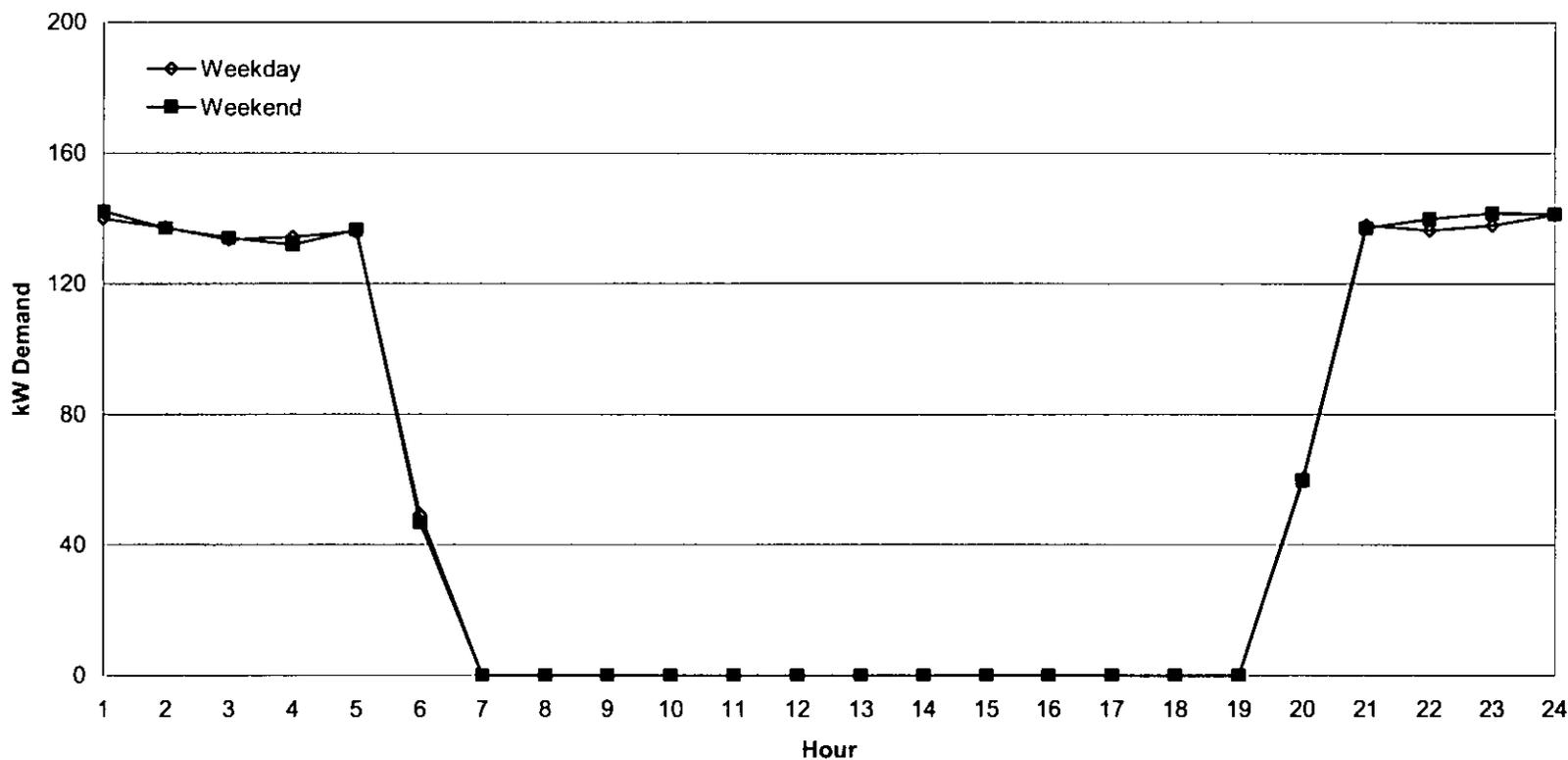
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Exhibit 10.1 e
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 May 2005



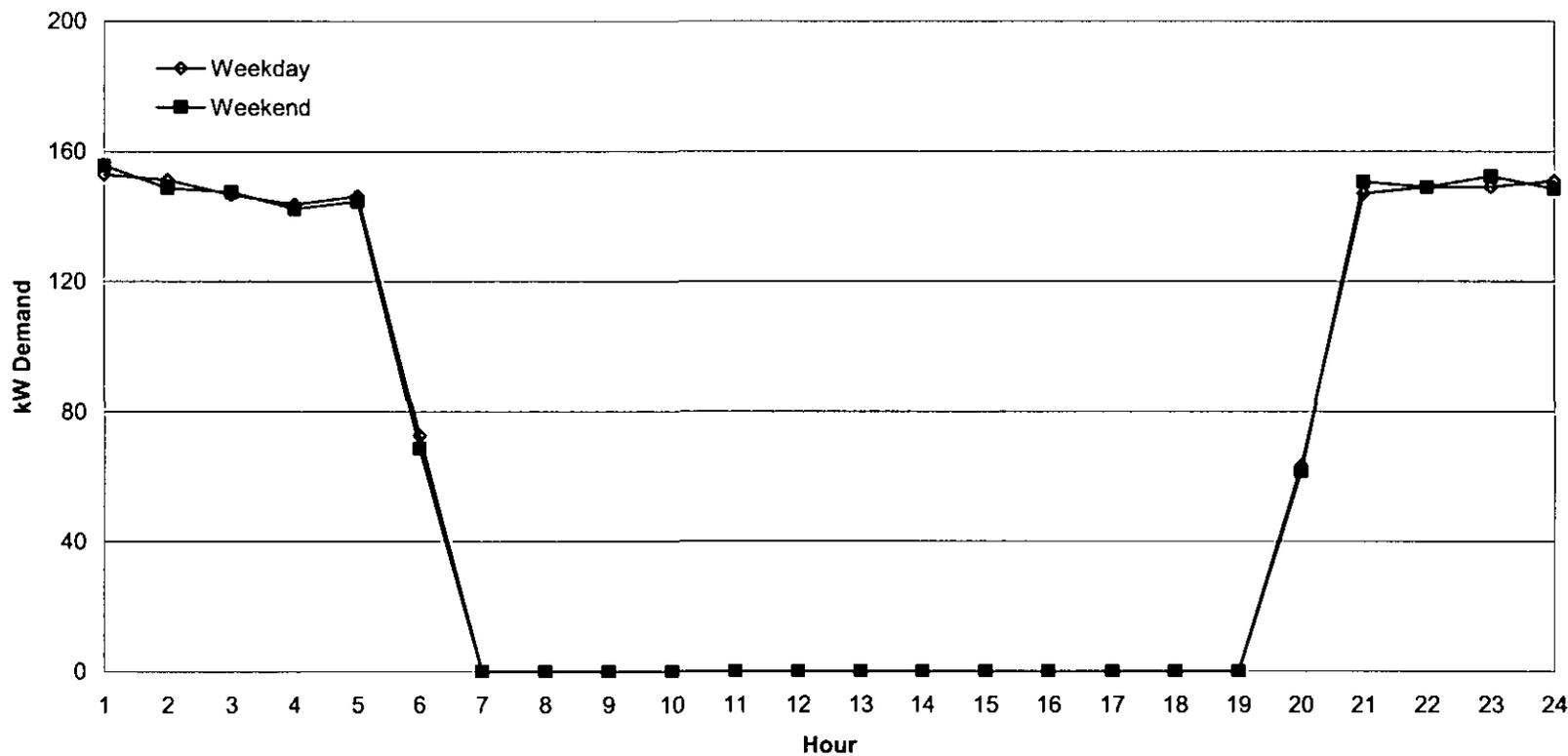
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Exhibit 10.1 f
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 June 2005



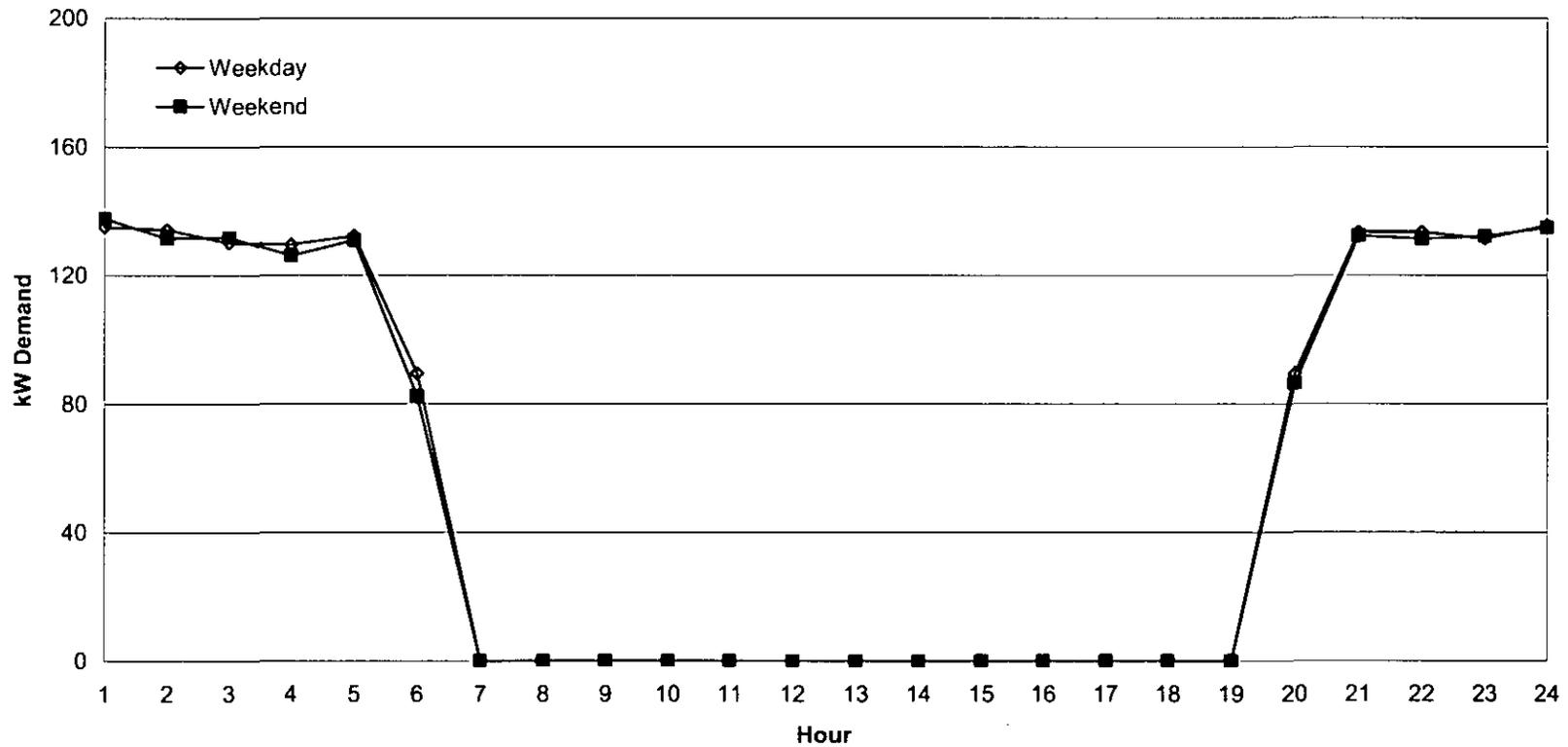
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Exhibit 10.1 g
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 July 2005



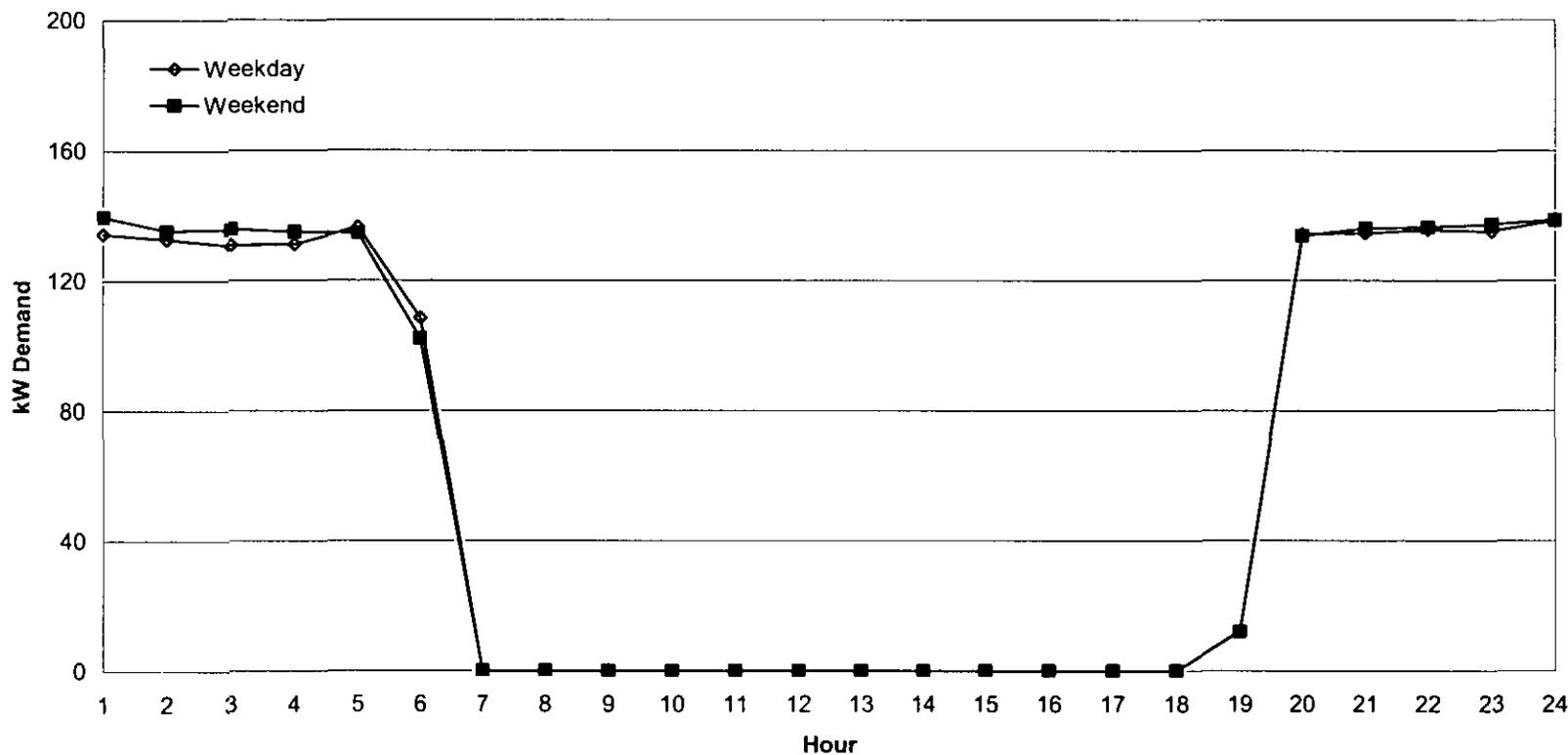
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Exhibit 10.1 h
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 August 2005



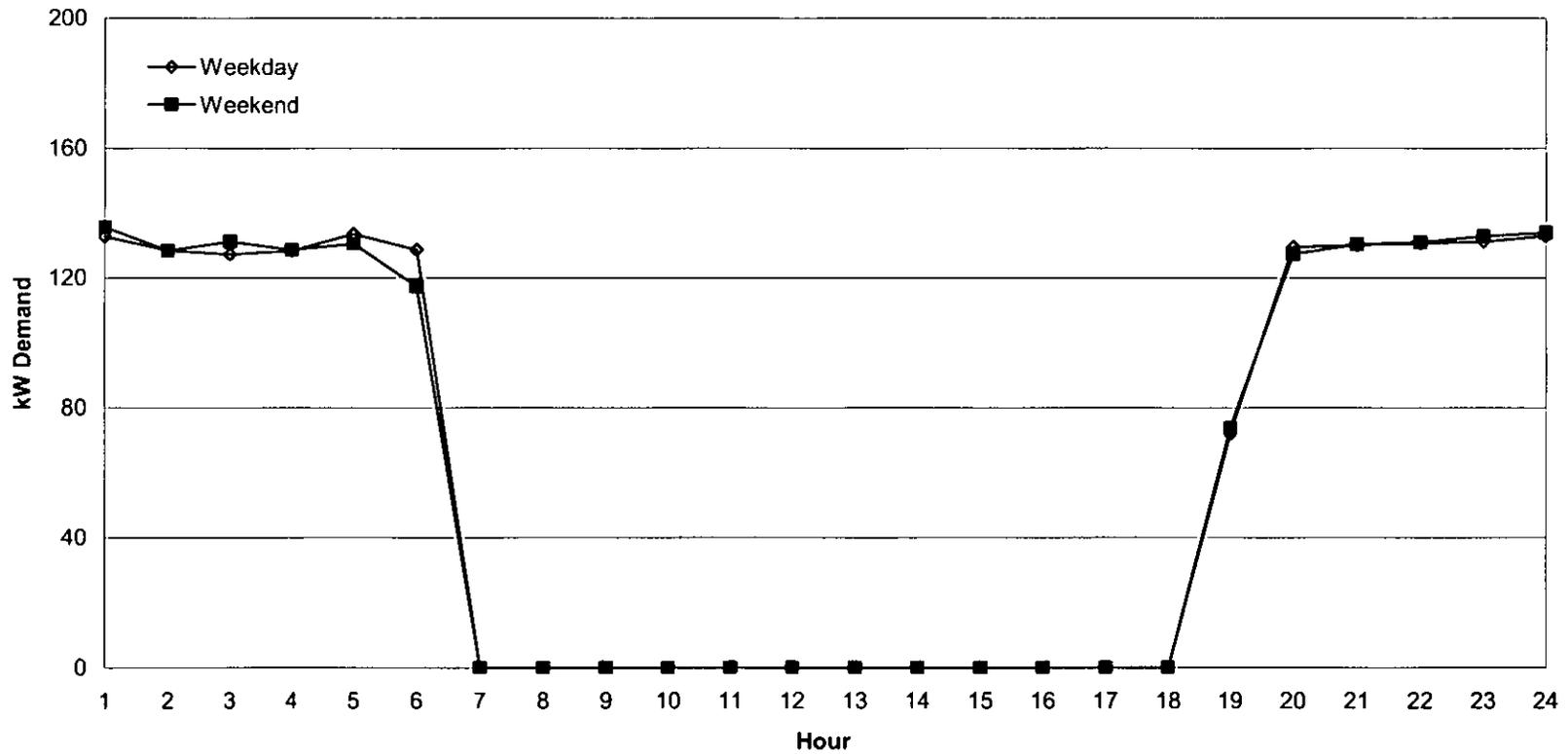
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Exhibit 10.1 i
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 September 2005



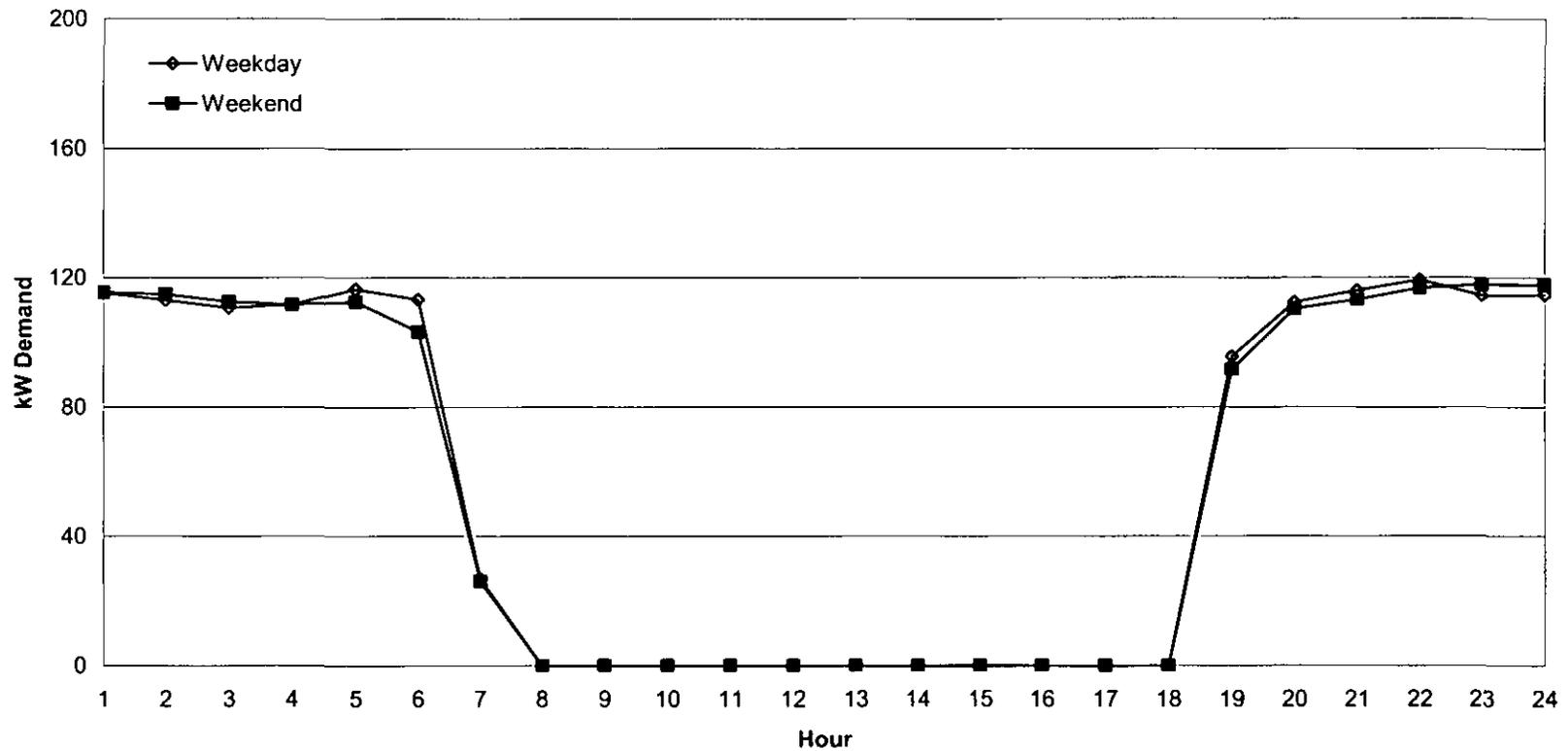
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Exhibit 10.1 j
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 October 2005



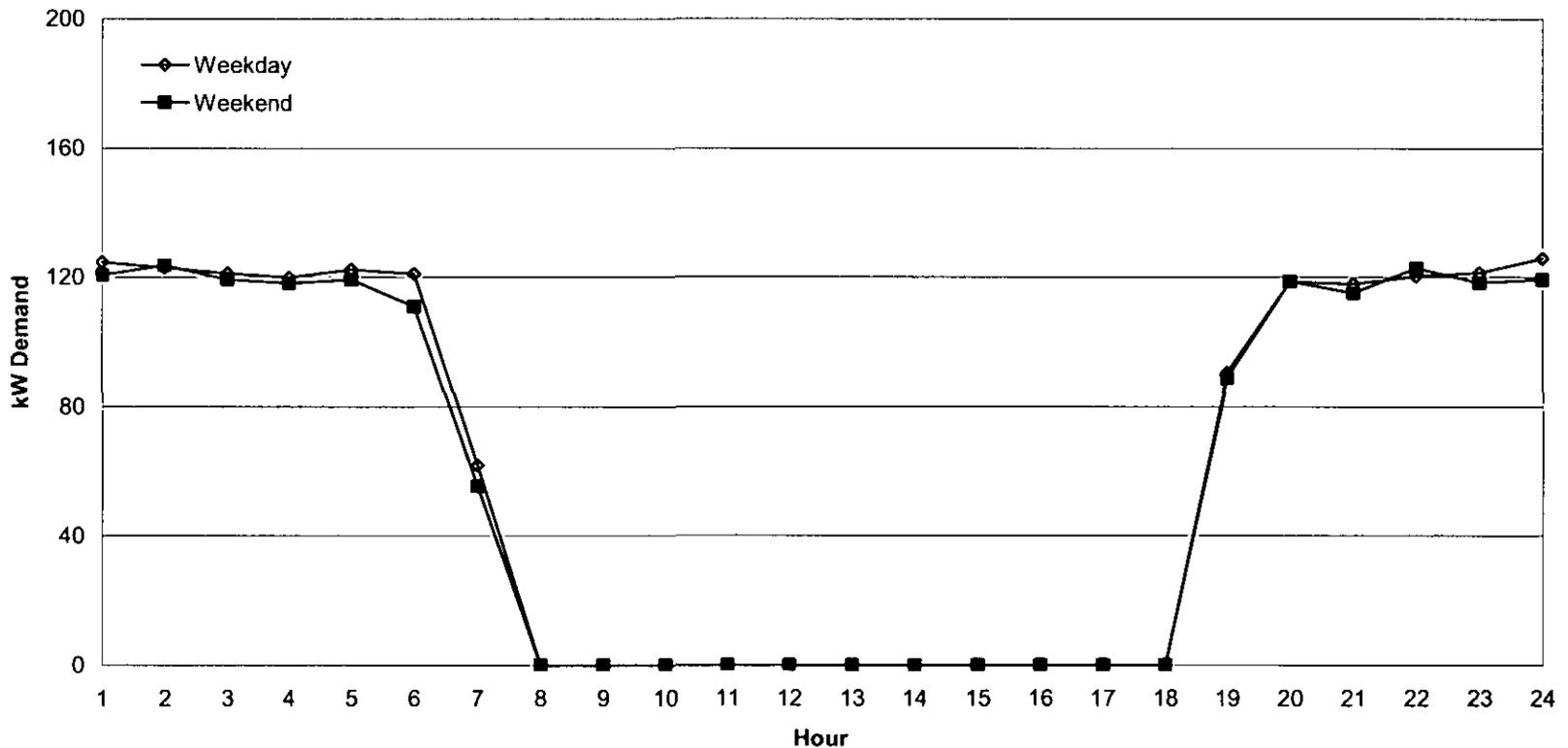
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Exhibit 10.1 k
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 November 2005



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Exhibit 10.1 I
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
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11. SCHEDULE N: CONTRACT OFF-PEAK AND INTERRUPTIBLE SERVICE

Schedule N consists of three commercial customers who pump water at night. During 2005 they accounted for 855 MWh of sales, or 2% of the total.

Schedule N's load data revealed these patterns and characteristics:

1. During 2005 Schedule N's average monthly consumption ranged from a low of 8,523 kWh in February to a high of 36,857 kWh in August.¹ The average monthly consumption for the three customers was 23,757 kWh.
2. Table 11.1 summarizes the monthly Schedule N load statistics per customer normalized to the sales level. Table 11.1 also shows the non-coincident and coincident demands of the residential sample.

The non-coincident demand is a customer's highest demand during a calendar month. The class non-coincident demand is the total non-coincident demand of all the customers in the class.

The coincident demand of a customer is the demand which a customer puts on the system at a specified time, either the system peak, daytime peak or class peak. The class coincident demand is the total demand of all customers in the class at the specified time.

The diversity factor represents the extent to which the peak demand of each individual customer in the class occurs simultaneously. It is the ratio of the maximum non-coincident demand per customer to the coincident demand per customer at the class peak, expressed as a percent.

The Schedule N sample's average diversity factor was 101%. The average non-coincident demand per customer was 148.1 kW; the average coincident demand per customer at the class peak was 146.7 kW. The highest coincident demand and the highest non-coincident demand occurred in March. The maximum coincident demand varied greatly throughout the year.

3. The sample's monthly load factor ranged from 10% to 31% during 2005, with an average monthly load factor of 22%.

¹ Recorded sales include estimates of unbilled sales. Schedule N loads, however, do not follow regular patterns, so recorded monthly sales can differ considerably from actual monthly sales, as they did during 2005 in February, March, November and December.

4. As befits its intent, Schedule N's monthly peaks occurred between 11 PM and 5 AM. Its hourly loads on the day of the class peak in each month are reported in Tables 11.2 (total class) and 11.3 (average per customer).
5. Table 11.4 summarizes the class contribution to the system and day peaks normalized to the gross generation. To extrapolate the demand from the sales level to the gross generation, the sample-based estimates for each class of sales at the peak hour were added, and the sum was normalized to the actual system or daytime peak for each month.

Schedule N's average contribution to the monthly system peaks and daytime peaks was 0%.

6. As shown in Table 11.5, nearly 100% of Schedule N's consumption occurred during the system off-peak period (9 PM to 7 AM daily).
7. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 11.6 through 11.11. The gross weekend and weekday loads are graphed in Exhibits 11.1a through 11.11.

In 2005 Schedule N's load profiles rose from zero during the daylight hours to a peak at midnight, but were safely home in bed by sunrise. From 10 PM to 6 AM Schedule P's weekday loads averaged 6% higher than its weekend loads.

Table 11.1
SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
Schedule N: Contract Off-Peak and Interruptible Service

Average per customer															
Month	Sample Size	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	3	10,080	1%	99%	01/11-3:00	135.8	0.1	0.0	137.7	101%	10%	10%	99%	0%	0%
February	3	8,523	0%	100%	02/28-24:00	96.9	0.1	0.1	99.5	103%	13%	13%	97%	0%	0%
March	3	22,392	0%	100%	03/21-3:00	194.8	0.1	0.1	197.5	101%	15%	15%	99%	0%	0%
April	3	20,393	0%	100%	04/03-23:00	146.5	0.2	0.2	147.9	101%	19%	19%	99%	0%	0%
May	3	24,277	0%	100%	05/26-1:00	153.1	0.2	0.2	154.6	101%	21%	21%	99%	0%	0%
June	3	24,197	0%	100%	06/26-23:00	149.9	0.2	0.2	150.9	101%	22%	22%	99%	0%	0%
July	3	29,091	0%	100%	07/01-23:00	148.1	0.2	0.2	149.2	101%	26%	26%	99%	0%	0%
August	3	36,857	0%	100%	08/01-5:00	160.7	0.2	0.2	161.7	101%	31%	31%	99%	0%	0%
September	3	30,073	0%	100%	09/12-3:00	146.4	0.2	0.2	147.0	100%	29%	28%	100%	0%	0%
October	3	27,110	0%	100%	10/28-5:00	138.7	0.1	0.2	139.4	101%	26%	26%	99%	0%	0%
November	3	31,551	0%	100%	11/18-3:00	174.6	0.2	0.2	175.9	101%	25%	25%	99%	0%	0%
December	3	20,539	0%	100%	12/15-24:00	115.0	0.1	0.1	115.4	100%	24%	24%	100%	0%	0%
Average	3	23,757	0%	100%		146.7	0.1	0.1	148.1	101%	22%	22%	99%	0%	0%

Notes:

- 1) kW Demand is 60-minute integrated demand.
- 2) On Peak is from 7 am to 9 pm daily.
- 3) Maximum non-coincident kW demand = \sum individual maximum demands.
- 4) Diversity factor = ratio of the weighted sum of the maximum demand of each member of the class to the maximum coincident demand of the entire class.
- 5) Load factor = ratio (as a %) of kWh / (peak demand x number of hours).
- 6) Coincidence factor = ratio (as a %) of the maximum demand of the class to the weighted sum of the maximum demand of each member of the class.
- 7) Due to estimating unbilled sales, recorded sales differ considerably from the actual sales in February, March, November and December.

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Table 11.2

HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS

Schedule N: Contract Off-Peak and Interruptible Service
60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	401	34	582	47	459	54	440	480	438	414	521	39
2	405	33	584	47	459	54	440	480	439	415	523	39
3	407	32	584	44	459	54	440	482	439	416	524	39
4	375	23	583	15	459	52	432	481	439	416	524	39
5	370	11	583	15	456	52	408	482	438	416	523	39
6	274	11	361	15	375	50	317	384	349	318	483	23
7	0	0	0	0	0	0	0	1	0	0	0	0
8	0	0	1	0	0	0	0	0	0	0	1	0
9	0	0	1	0	0	0	0	1	0	0	1	0
10	0	0	1	0	0	0	0	1	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	1	0
12	0	0	1	0	0	0	0	1	0	0	1	0
13	0	0	1	0	0	0	0	1	0	0	1	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	1	0	0	0	0	1	0	0	1	0
16	0	0	1	0	0	0	0	1	0	0	1	0
17	0	0	1	0	0	0	0	1	0	0	1	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	1	0	0	0	0	1	0	0	1	0
20	0	0	1	0	0	0	0	1	0	0	1	0
21	0	0	1	0	0	0	0	1	0	0	1	0
22	0	0	0	14	14	31	36	34	23	0	0	0
23	49	279	558	440	457	450	444	478	400	388	451	272
24	49	291	580	438	456	447	443	477	400	411	518	345
Average	97	30	184	45	150	52	142	158	140	133	170	35

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Table 11.3

HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS

Schedule N: Contract Off-Peak and Interruptible Service
60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	134	11	194	16	153	18	147	160	146	138	174	13
2	135	11	195	16	153	18	147	160	146	138	174	13
3	136	11	195	15	153	18	147	161	146	139	175	13
4	125	8	194	5	153	17	144	160	146	139	175	13
5	123	4	194	5	152	17	136	161	146	139	174	13
6	91	4	120	5	125	17	106	128	116	106	161	8
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	5	5	10	12	11	8	0	0	0
23	16	93	186	147	152	150	148	159	133	129	150	91
24	16	97	193	146	152	149	148	159	133	137	173	115
Average	32	10	61	15	50	17	47	53	47	44	57	12

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Table 11.4

CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS

Schedule N: Contract Off-Peak and Interruptible Service
60-Minute Integrated kW Demand at the Gross Level, Normalized

Month	SYSTEM PEAK		DAYTIME PEAK	
	CLASS kW	% OF SYSTEM	CLASS kW	% OF SYSTEM
January	0.5	0%	0.0	0%
February	0.3	0%	0.4	0%
March	0.7	0%	0.5	0%
April	0.6	0%	0.6	0%
May	0.6	0%	0.6	0%
June	0.6	0%	0.6	0%
July	0.6	0%	0.6	0%
August	0.6	0%	0.5	0%
September	0.6	0%	0.6	0%
October	0.4	0%	0.6	0%
November	0.7	0%	0.7	0%
December	0.5	0%	0.4	0%
Average	0.6	0%	0.5	0%

Note: The annual instantaneous system peak of 6.35 MW occurred on January 20, 2005 @ 18:08

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Table 11.5
CLASS kWh LOAD BY TIME-OF-USE AT THE SALES LEVEL
 Schedule N: Contract Off-Peak and Interruptible Service

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	33	166	30,042	30,241	0%	1%	99%	100%
February	22	90	25,458	25,570	0%	0%	100%	100%
March	49	191	66,937	67,177	0%	0%	100%	100%
April	38	149	60,992	61,179	0%	0%	100%	100%
May	39	160	72,633	72,831	0%	0%	100%	100%
June	38	149	72,405	72,592	0%	0%	100%	100%
July	36	157	87,082	87,274	0%	0%	100%	100%
August	43	166	110,362	110,571	0%	0%	100%	100%
September	36	176	90,008	90,220	0%	0%	100%	100%
October	34	139	81,158	81,331	0%	0%	100%	100%
November	42	179	94,432	94,653	0%	0%	100%	100%
December	29	121	61,467	61,617	0%	0%	100%	100%
Total	438	1,843	852,975	855,256				
Percent	0%	0%	100%	100%				

Note: Normalized sales from sample estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday 7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

Table 11.6
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule N: Contract Off-Peak and Interruptible Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	183	141	383	342	319	398	412	511	393	390	478	285
2	174	132	377	331	313	390	407	508	388	376	465	281
3	172	134	369	329	306	379	395	487	383	367	455	277
4	149	130	367	313	305	375	373	466	383	343	449	270
5	112	129	352	266	272	323	308	460	398	315	412	267
6	77	81	226	162	159	183	188	350	295	208	372	230
7	0	0	1	0	2	0	1	1	0	0	1	28
8	0	0	1	1	1	0	1	1	1	1	1	0
9	0	0	1	1	1	1	0	1	2	0	1	0
10	0	0	1	1	1	1	1	1	0	0	1	0
11	0	0	1	1	1	0	1	1	0	0	1	0
12	0	0	1	1	1	1	1	1	0	0	1	0
13	0	0	1	0	1	1	0	1	0	0	1	0
14	0	0	1	1	1	0	1	1	0	0	1	0
15	2	0	1	1	1	0	1	1	0	0	1	0
16	0	0	1	1	1	1	1	1	0	0	1	0
17	0	0	1	0	0	1	0	1	0	0	1	0
18	0	0	1	1	1	1	1	1	1	0	1	0
19	1	0	1	1	1	1	1	1	1	0	1	0
20	0	0	1	1	1	1	1	1	0	0	1	0
21	0	0	1	0	0	1	0	1	0	0	1	0
22	2	1	2	2	6	12	24	31	24	41	1	0
23	159	185	343	305	361	394	441	498	416	416	428	248
24	161	194	354	320	362	403	448	513	420	429	477	319
Average	50	47	116	99	101	119	125	160	130	120	148	92

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Table 11.7
 AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
 Schedule N: Contract Off-Peak and Interruptible Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	160	122	349	306	287	352	366	456	360	341	429	250
2	160	122	350	306	287	352	365	456	360	340	427	250
3	160	122	349	306	287	352	365	452	360	335	427	250
4	138	120	345	302	287	345	352	434	360	310	417	246
5	99	115	320	250	243	294	286	420	359	273	366	238
6	68	71	204	147	145	168	176	330	278	184	341	208
7	0	0	1	0	2	0	0	0	0	0	1	26
8	0	0	1	0	0	0	0	0	0	0	1	0
9	0	0	1	0	0	0	0	0	2	0	1	0
10	0	0	1	0	0	0	0	0	0	0	1	0
11	0	0	1	0	0	0	0	0	0	0	1	0
12	0	0	1	0	0	0	0	0	0	0	0	0
13	0	0	1	0	0	0	0	0	0	0	1	0
14	0	0	1	0	0	0	0	0	0	0	1	0
15	2	0	1	0	0	0	0	0	0	0	1	0
16	0	0	1	0	0	0	0	0	0	0	1	0
17	0	0	1	0	0	0	0	0	0	0	1	0
18	0	0	1	0	0	0	0	1	0	0	1	0
19	0	0	1	0	0	0	0	0	0	0	1	0
20	0	0	1	0	0	0	0	0	0	0	1	0
21	0	0	1	0	0	0	0	0	0	0	1	0
22	2	1	2	2	6	11	22	28	22	37	1	0
23	137	166	315	277	325	353	402	457	379	368	387	223
24	140	174	325	288	324	353	402	456	373	375	431	277
Average	45	42	107	91	92	108	114	146	119	107	135	82

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Table 11.8
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule N: Contract Off-Peak and Interruptible Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	127	134	200	253	422	310	463	541	487	437	461	302
2	119	136	193	237	409	298	443	516	472	414	458	310
3	117	123	190	243	403	292	439	517	473	422	437	298
4	109	95	176	223	400	278	423	495	470	410	388	294
5	99	89	153	222	374	248	384	514	461	398	379	281
6	74	40	86	163	235	184	207	362	332	271	343	254
7	0	0	1	0	4	0	0	0	0	0	1	34
8	0	0	1	1	1	1	1	1	1	1	1	0
9	0	0	1	1	1	0	1	1	0	0	1	0
10	0	0	1	0	1	1	0	1	0	0	1	0
11	0	0	1	0	0	1	0	1	1	1	1	0
12	0	0	1	1	1	1	1	1	1	0	1	0
13	0	0	1	0	1	0	0	1	0	0	1	0
14	0	0	1	0	1	1	0	1	0	0	1	0
15	0	0	1	1	0	1	1	1	1	0	1	0
16	0	0	1	1	1	1	1	1	0	0	1	0
17	0	0	1	0	1	0	1	1	0	0	1	0
18	1	0	1	1	1	1	0	1	0	0	1	0
19	0	0	1	1	0	1	0	1	1	0	1	0
20	0	0	1	0	1	1	1	1	0	0	1	0
21	0	0	1	0	1	0	0	1	0	0	1	0
22	0	0	1	4	5	10	23	40	24	31	1	0
23	126	68	132	249	322	310	415	522	479	341	384	184
24	132	69	174	245	330	309	405	531	483	346	418	228
Average	38	32	55	77	121	94	134	169	154	128	137	91

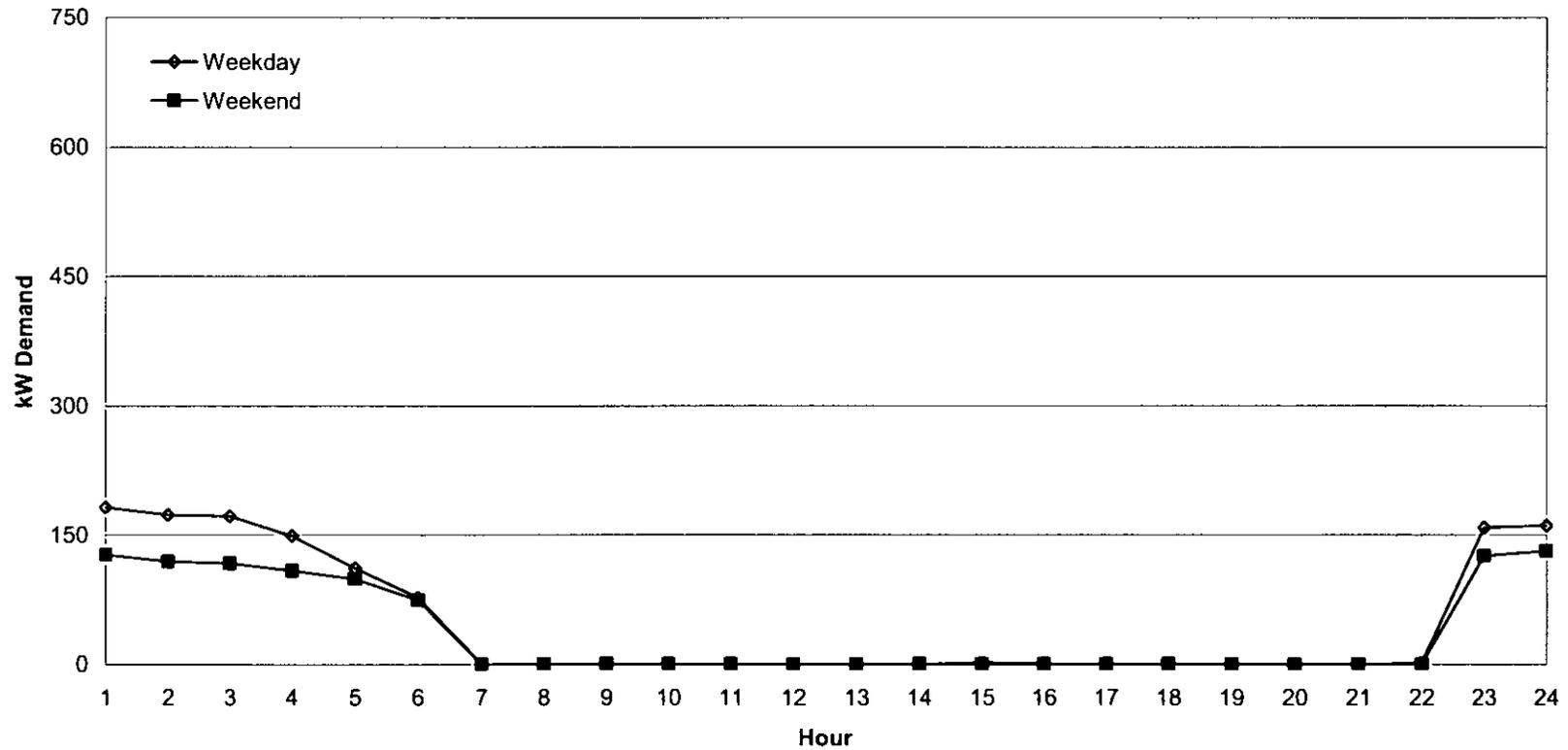
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Table 11.9
AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule N: Contract Off-Peak and Interruptible Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	108	120	174	220	374	270	404	474	429	374	414	273
2	108	120	174	220	373	269	404	474	429	374	414	274
3	106	115	173	219	373	269	404	474	429	374	402	273
4	97	89	167	213	370	261	404	474	428	370	360	272
5	90	82	138	205	345	224	361	473	422	354	349	257
6	69	38	81	157	230	179	205	371	333	264	344	251
7	0	0	1	0	3	0	0	0	0	0	1	36
8	0	0	1	0	0	0	0	0	0	0	1	0
9	0	0	1	0	0	0	0	0	0	0	1	0
10	0	0	1	0	0	0	0	0	0	0	1	0
11	0	0	1	0	0	0	0	0	0	0	0	0
12	0	0	1	0	0	0	0	0	0	0	1	0
13	0	0	1	0	0	0	0	0	0	0	1	0
14	0	0	1	0	0	0	0	0	0	0	0	0
15	0	0	1	0	0	0	0	0	0	0	1	0
16	0	0	1	0	0	0	0	1	0	0	1	0
17	0	0	1	0	0	0	0	0	0	0	1	0
18	0	0	1	0	0	0	0	0	0	0	1	0
19	0	0	1	0	0	0	0	1	0	0	1	0
20	0	0	1	0	0	0	0	1	0	0	1	0
21	0	0	1	0	0	0	0	0	0	0	1	0
22	0	0	1	4	4	9	21	36	22	28	0	0
23	108	62	117	221	291	271	369	476	430	298	338	170
24	111	63	156	221	294	270	370	475	428	300	368	209
Average	33	29	50	70	111	85	123	156	140	114	125	84

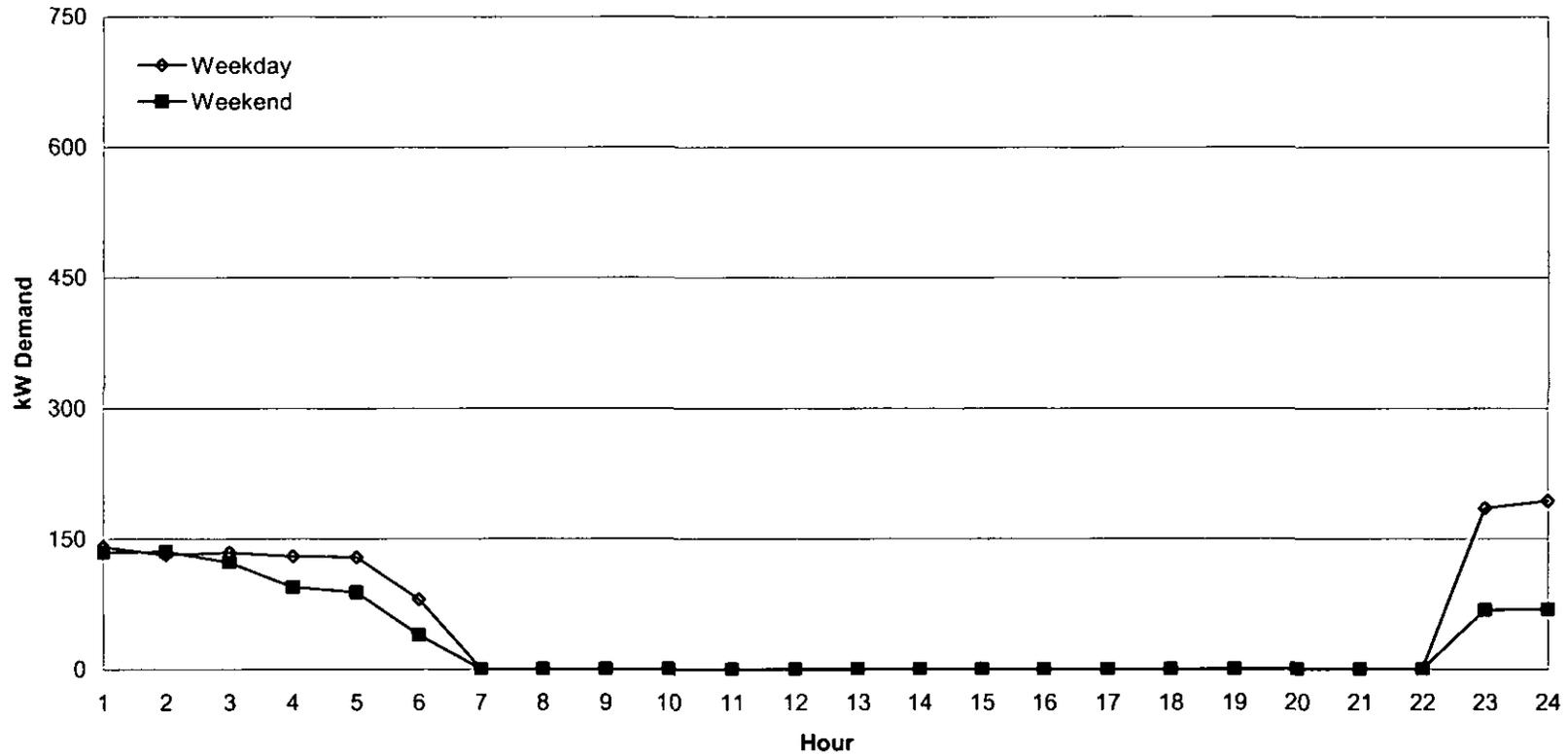
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Exhibit 11.1 a
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule N: Contract Off-Peak and Interruptible Service
 January 2005



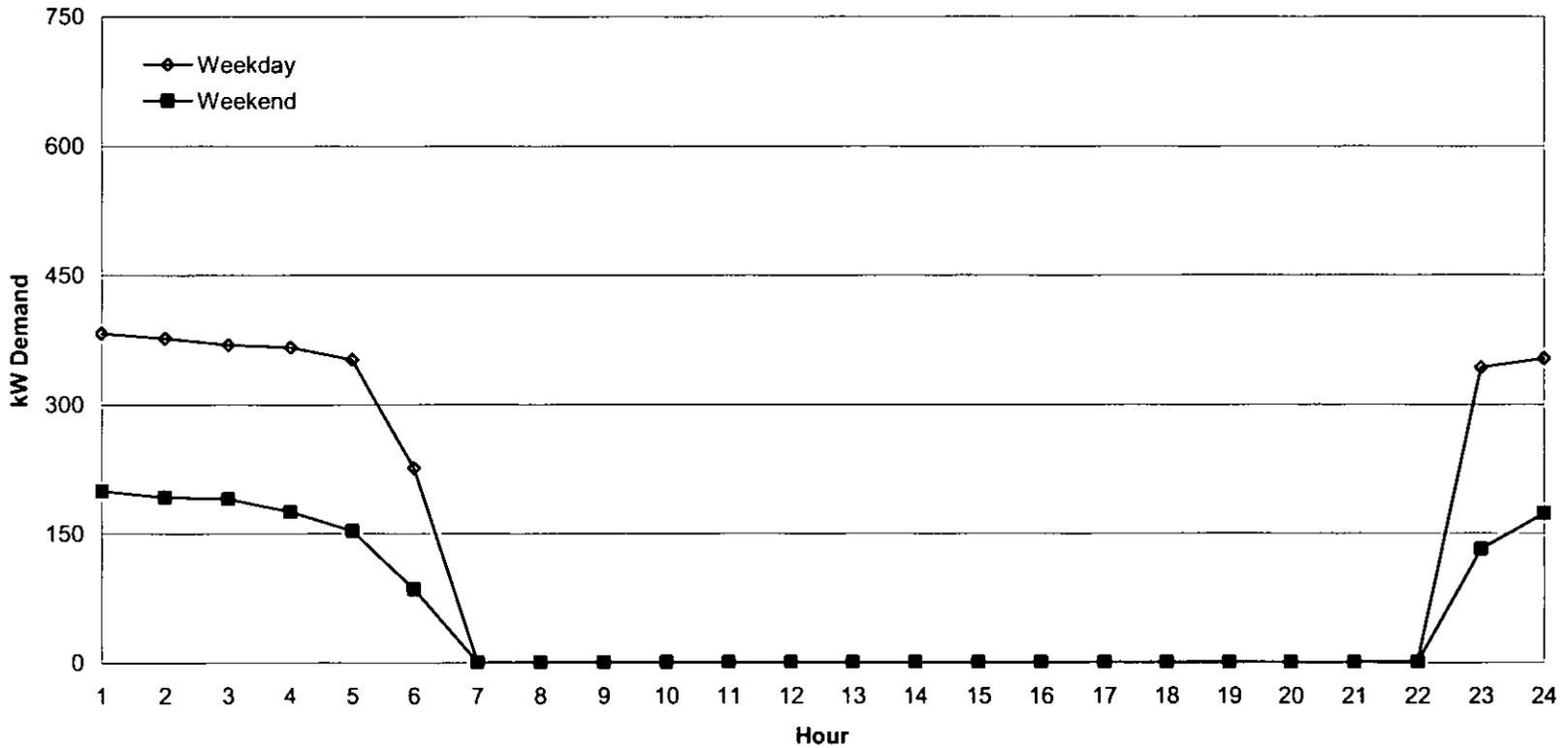
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Exhibit 11.1 b
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
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 February 2005



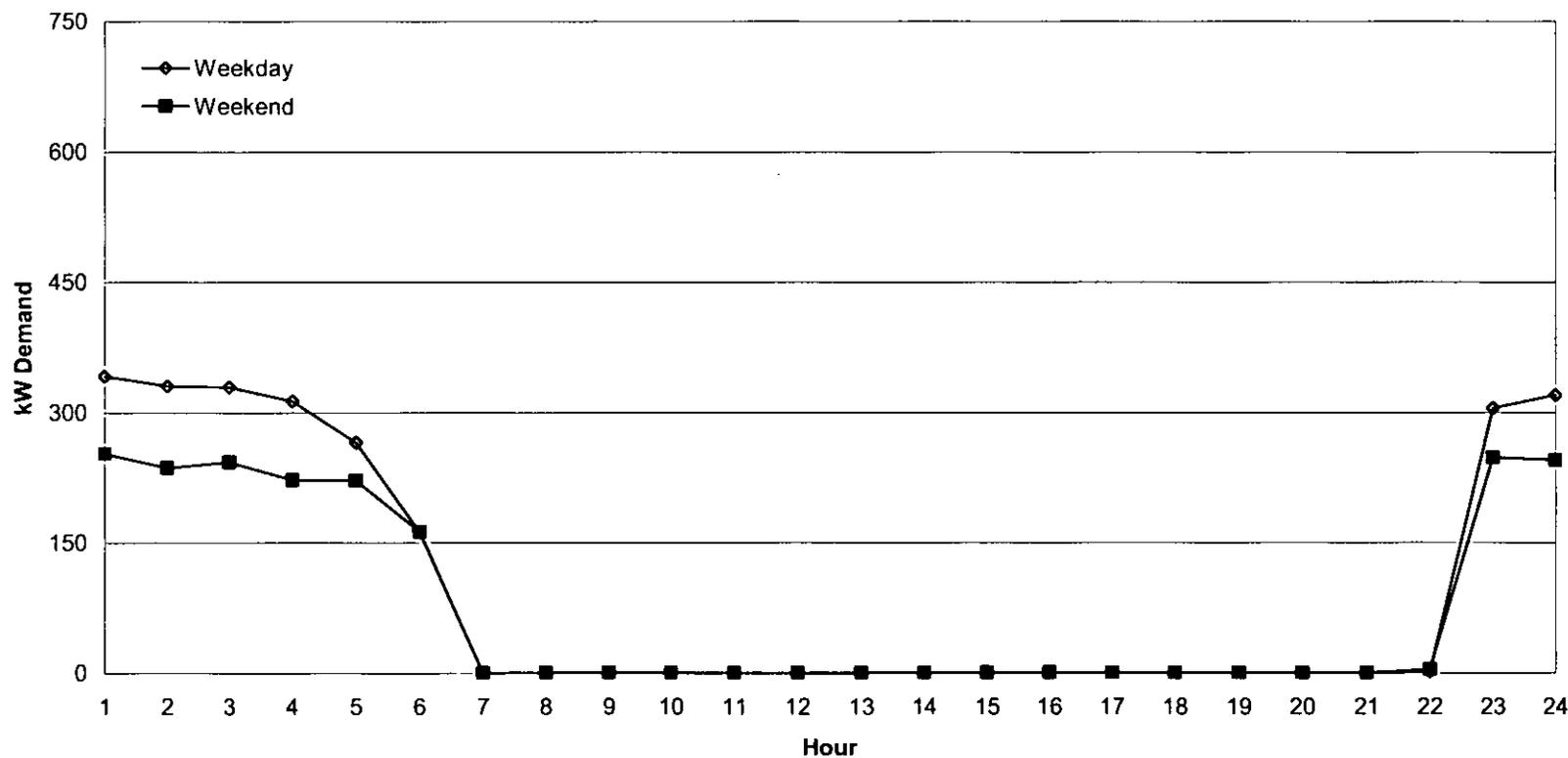
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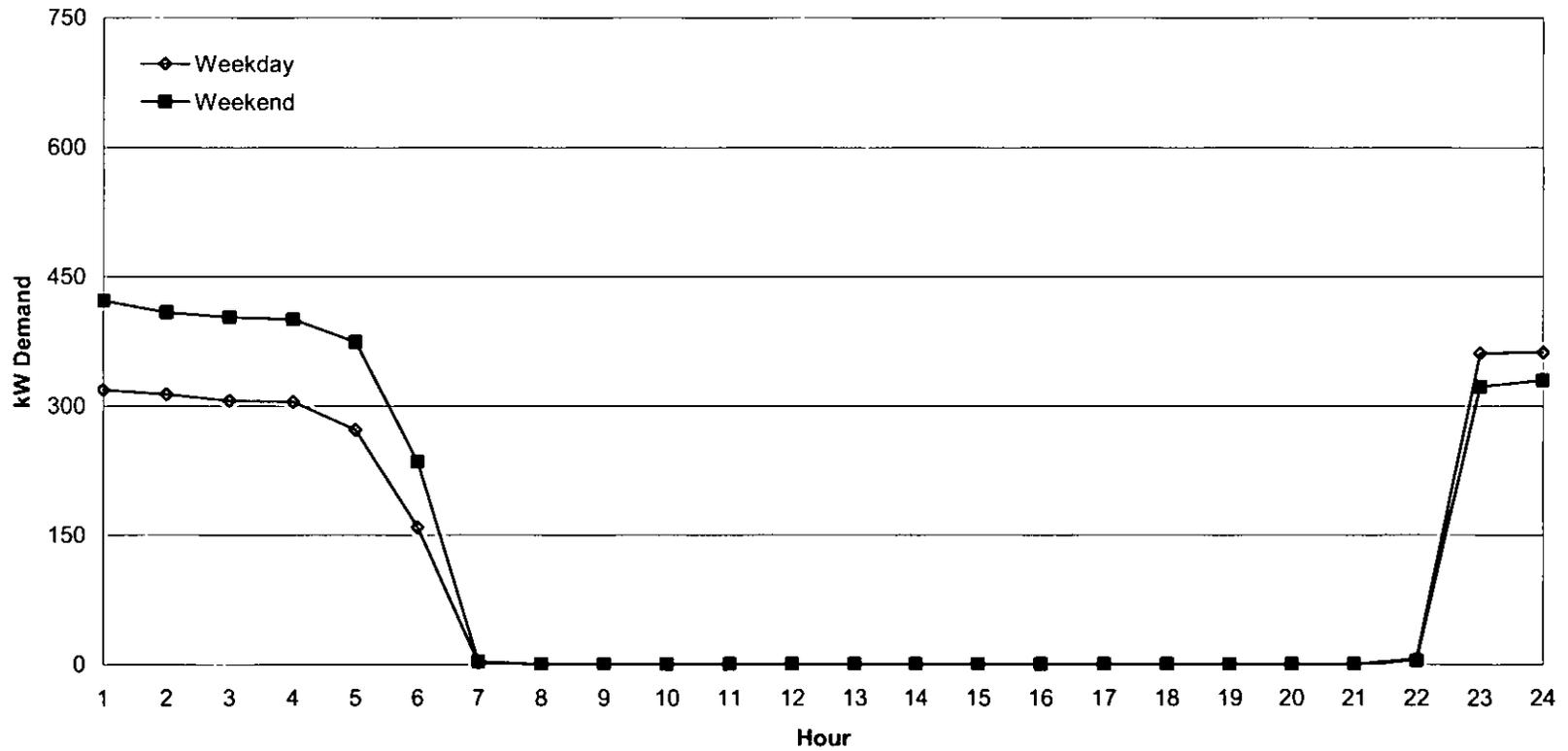
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Exhibit 11.1 d
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
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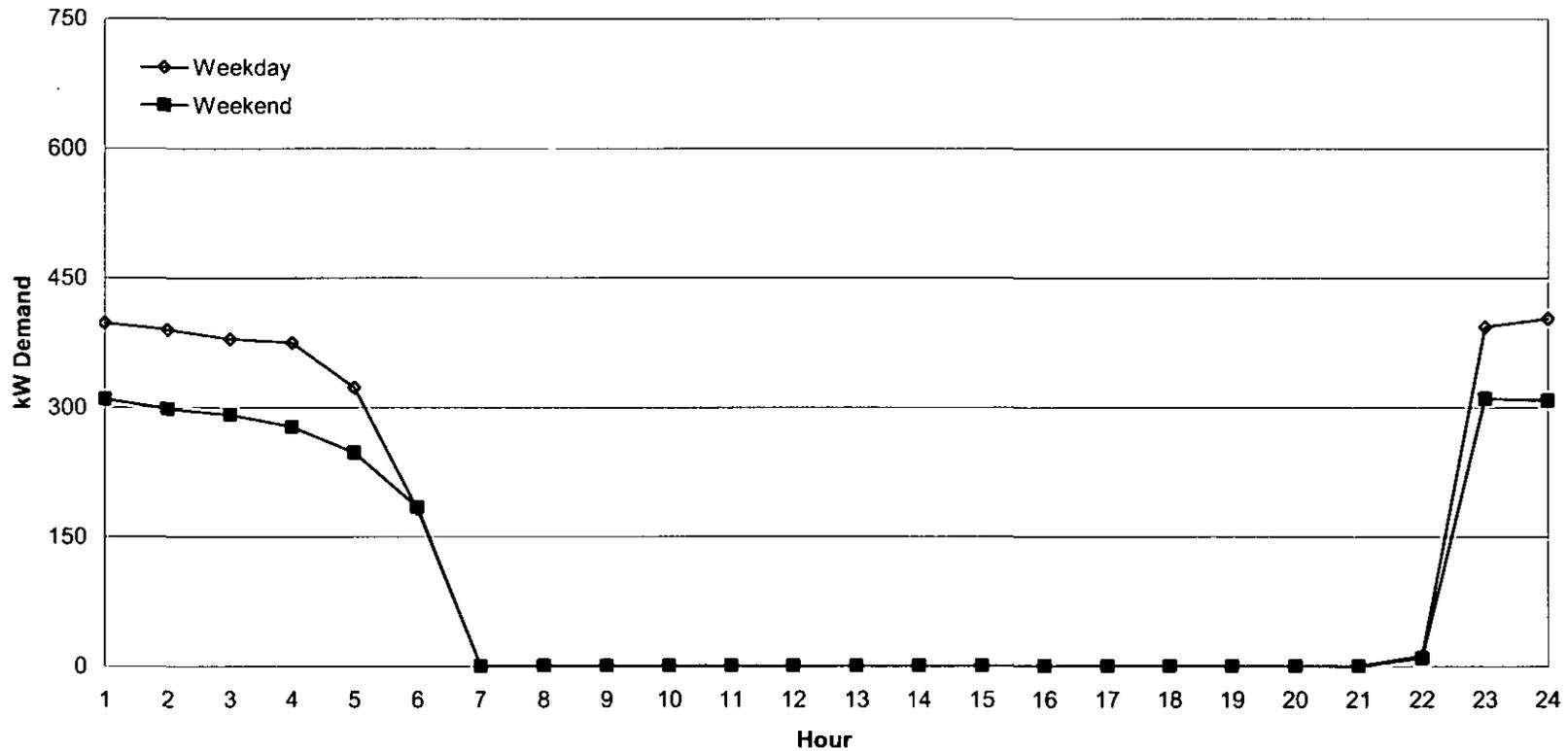
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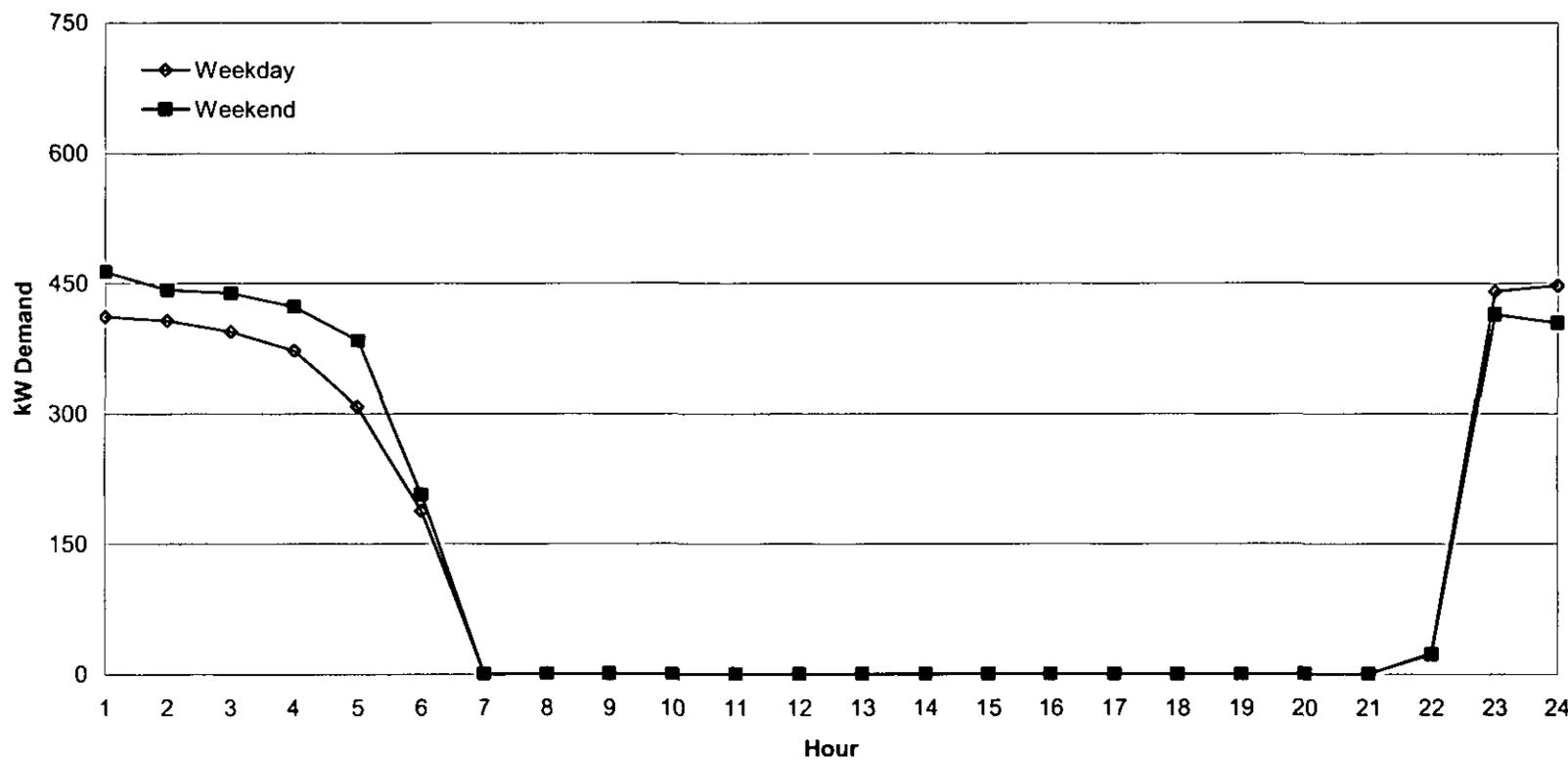
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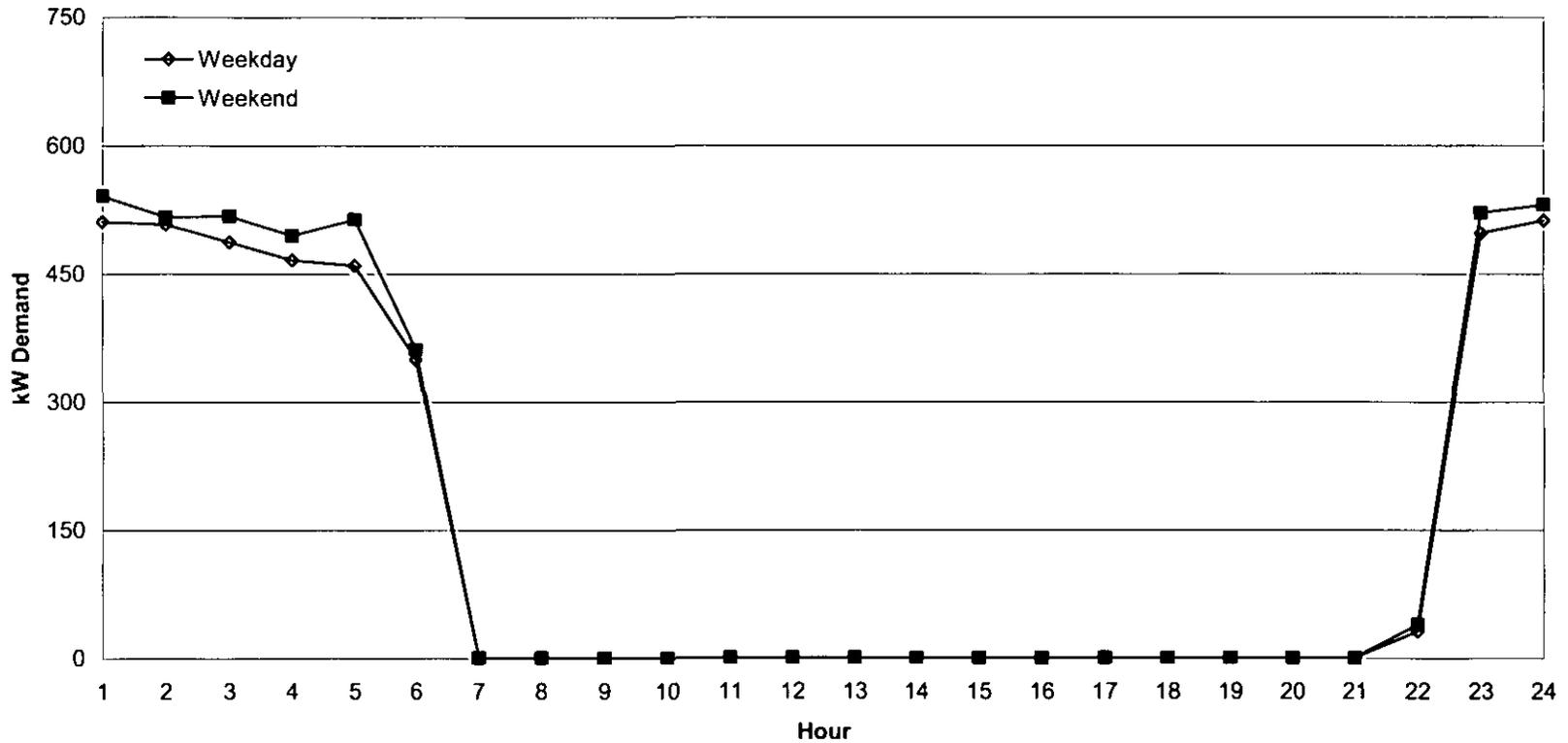
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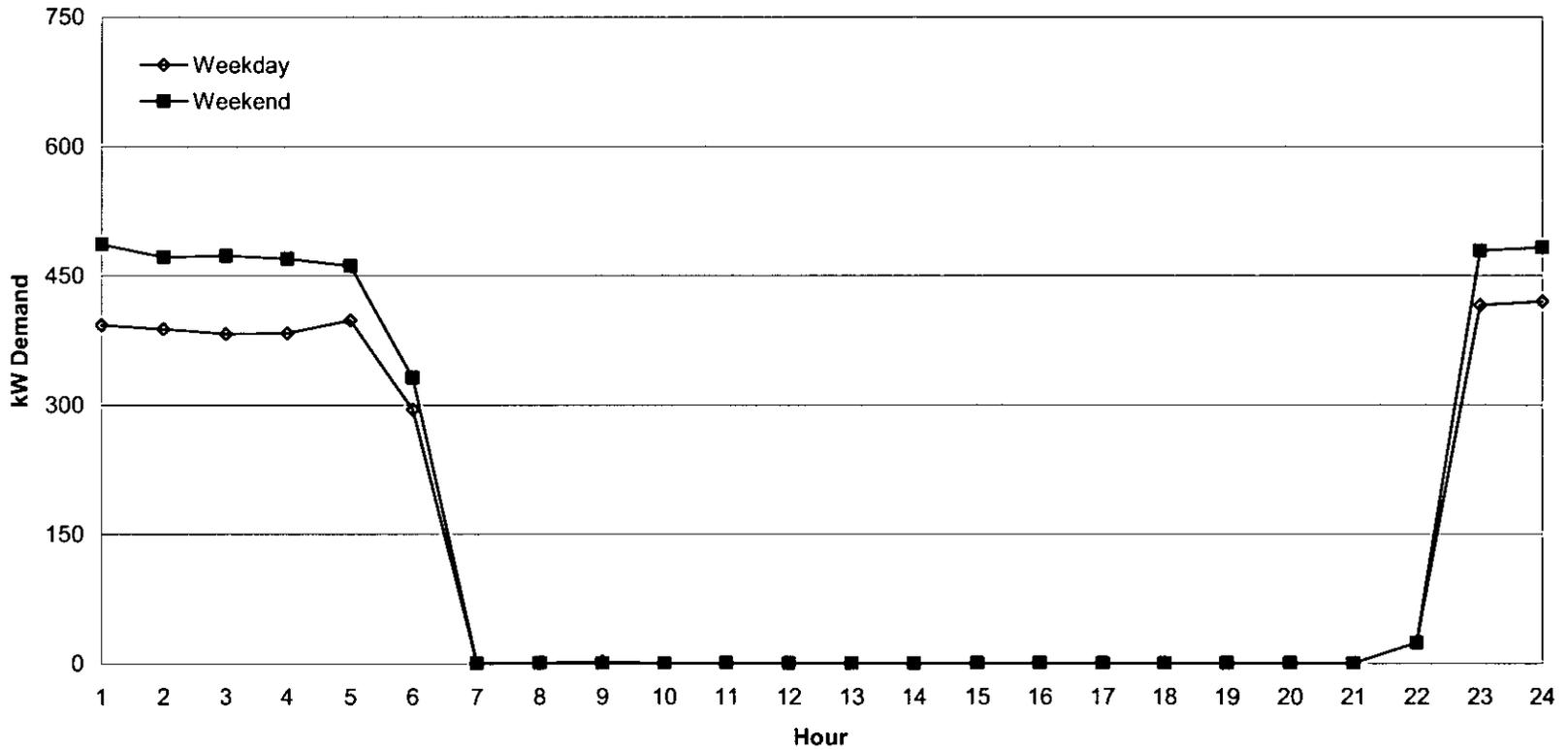
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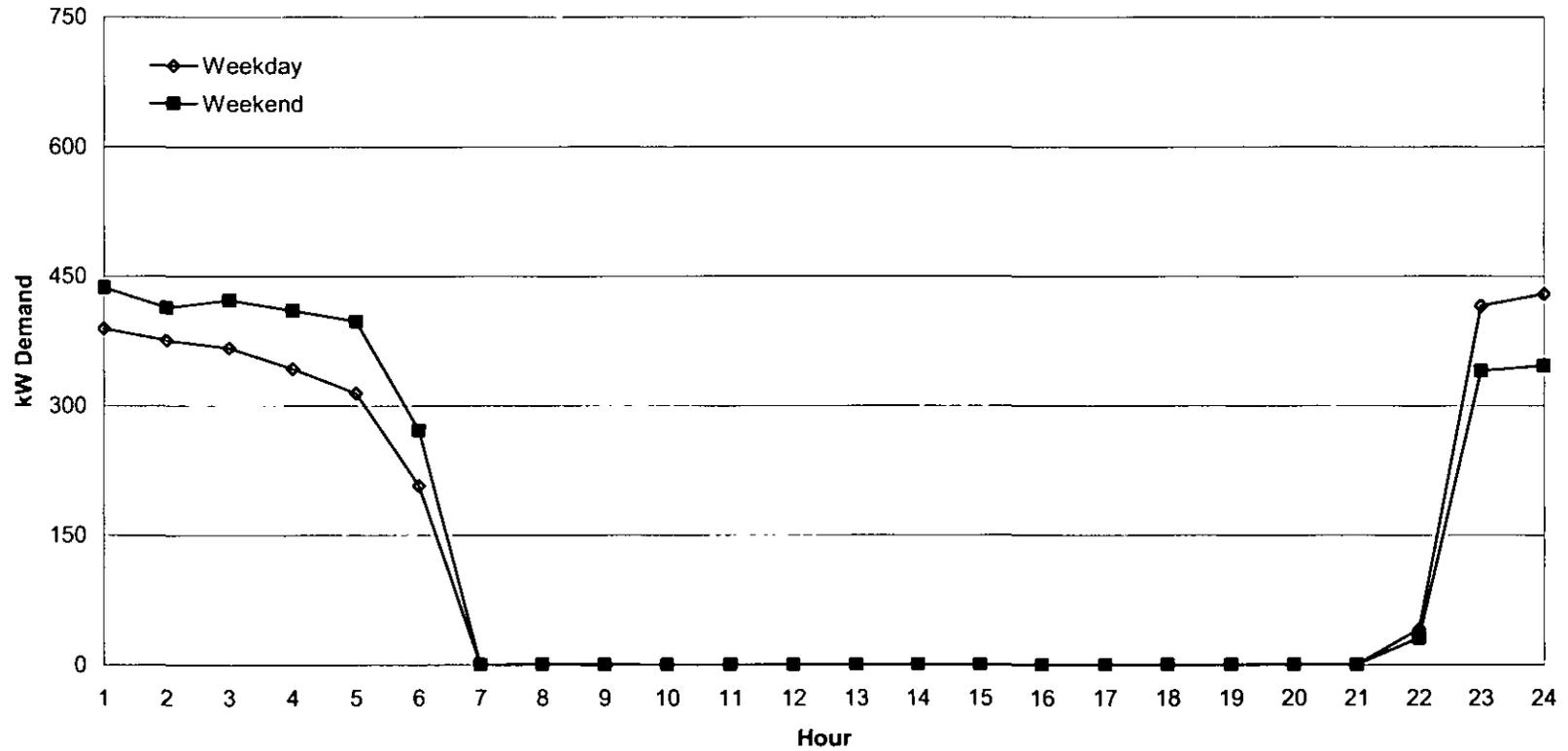
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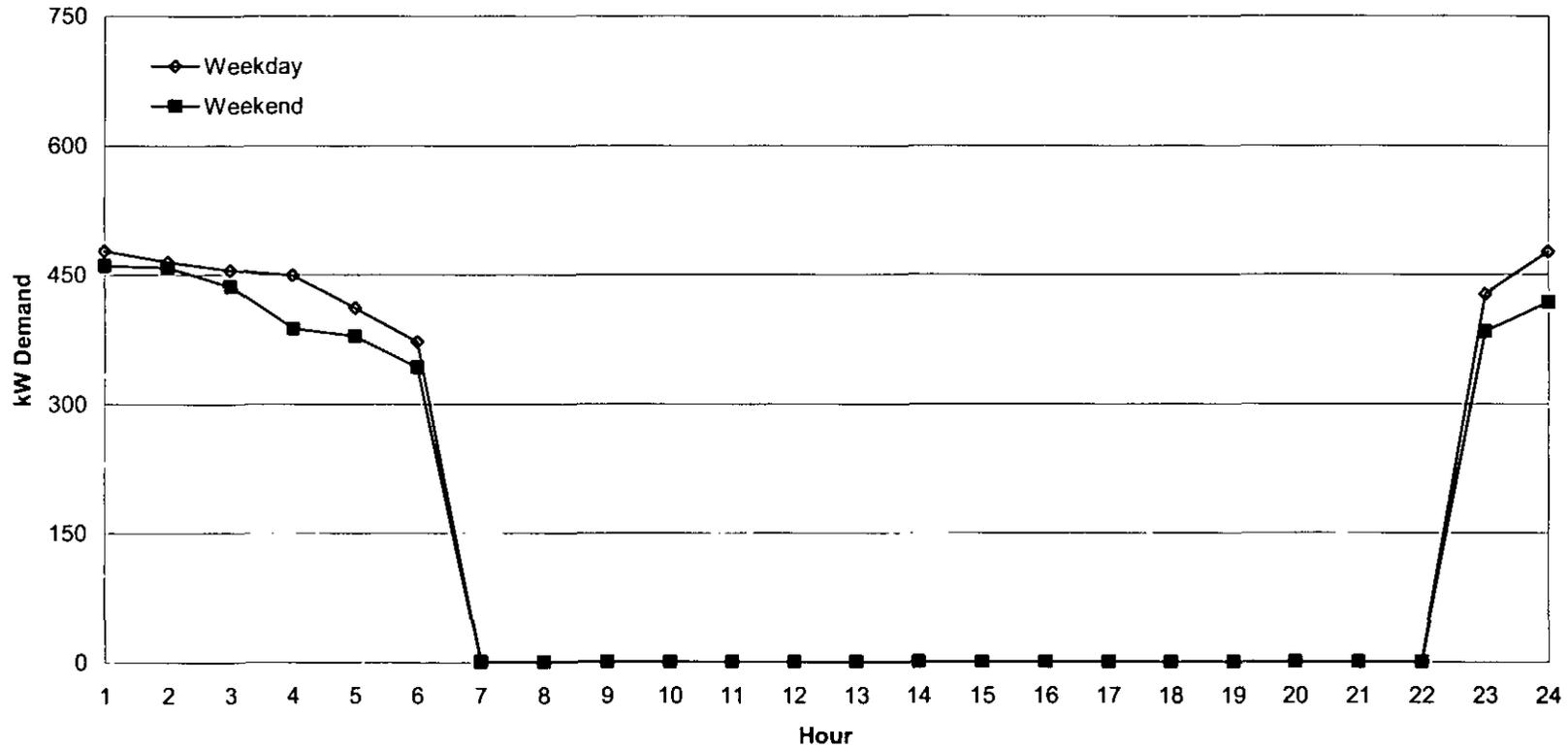
Schedule N: Contract Off-Peak and Interruptible Service

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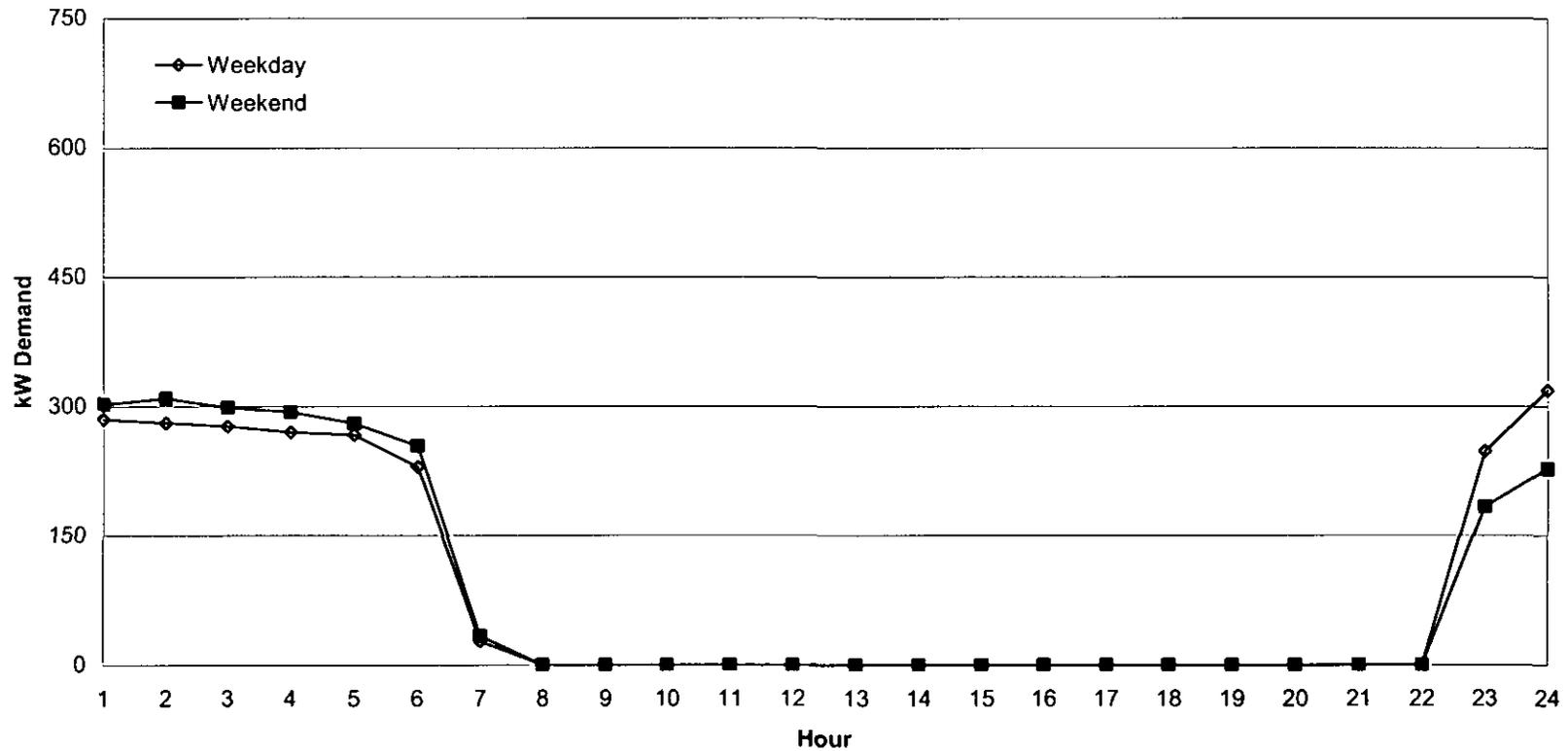
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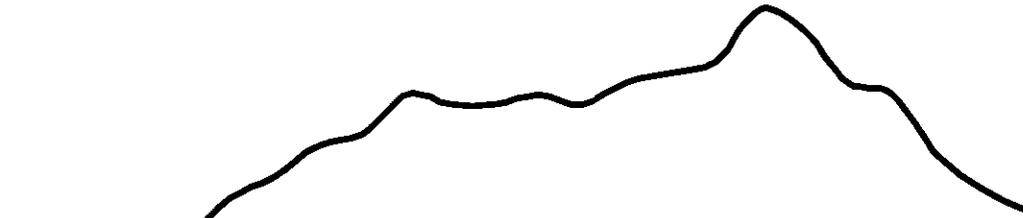


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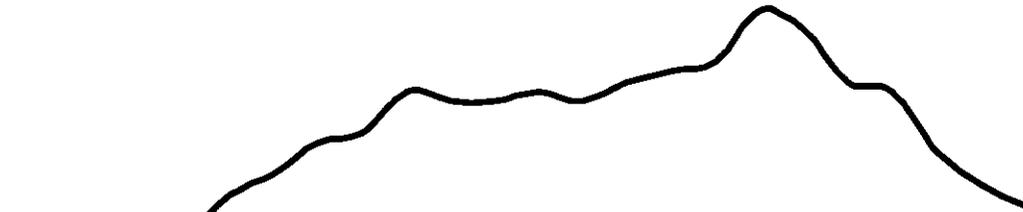
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2005 Class Load Study
MAUI ELECTRIC COMPANY, LTD.
Lana'i Division



2005 Class Load Study
MAUI ELECTRIC COMPANY, LTD.
Lana'i Division

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September 2006

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1. SUMMARY

A. PROJECT OBJECTIVE

From January through December 2005, the Maui Electric Company, Ltd. (MECO) collected 15-minute load data to determine individual rate schedule and total system load patterns and characteristics. This 2005 class load study report presents the findings.

The purpose of the study was to provide class load data and statistics for use in load forecasting, integrated resource planning, cost-of-service studies, pricing and designing demand-side management programs. The study provides detailed data on how much and when MECO's customers on Lana'i use electricity. This allows MECO to better estimate levels of future loads, plan for and utilize existing capacity more efficiently, determine strengths and weaknesses in certain marketing programs, and design fair, reasonable and competitive rates that encourage customer load management.

The study metered and collected 15-minute kW data from 568 selected sample customers covering each rate class, with the exception of Schedule F (public street lighting). Schedule F loads were manually constructed, since all street lights are on either photoelectric or timer controls.

The successful implementation and completion of the study was made possible by the combined efforts of three groups in two companies. The Forecasts & Research Division of the Customer Solutions Department at Hawaiian Electric Co., Inc. (HECO) was responsible for the overall coordination of the study, study design, validation of the data and generation of the report. The Customer Service Department of MECO installed and maintained the meters, and collected the data; the Customer Account Services Division of HECO translated the meter data.

B. OVERVIEW OF THE REPORT

This report presents a comprehensive account of the methodology and results of the project. Section 2 describes the sample design. Section 3 describes the data collection, validation and expansion to the total class levels. The results of the study are contained in Section 4 for the total system, and in Sections 5 through 10 for Schedules R, G, J, H, P and F, respectively. Sections 5 through 10 are in this order to facilitate comparison with previous class load studies; the tables in Section 4, however, present the rates in alphabetical order.

C. SUMMARY OF THE FINDINGS

Here are the major findings of the study:

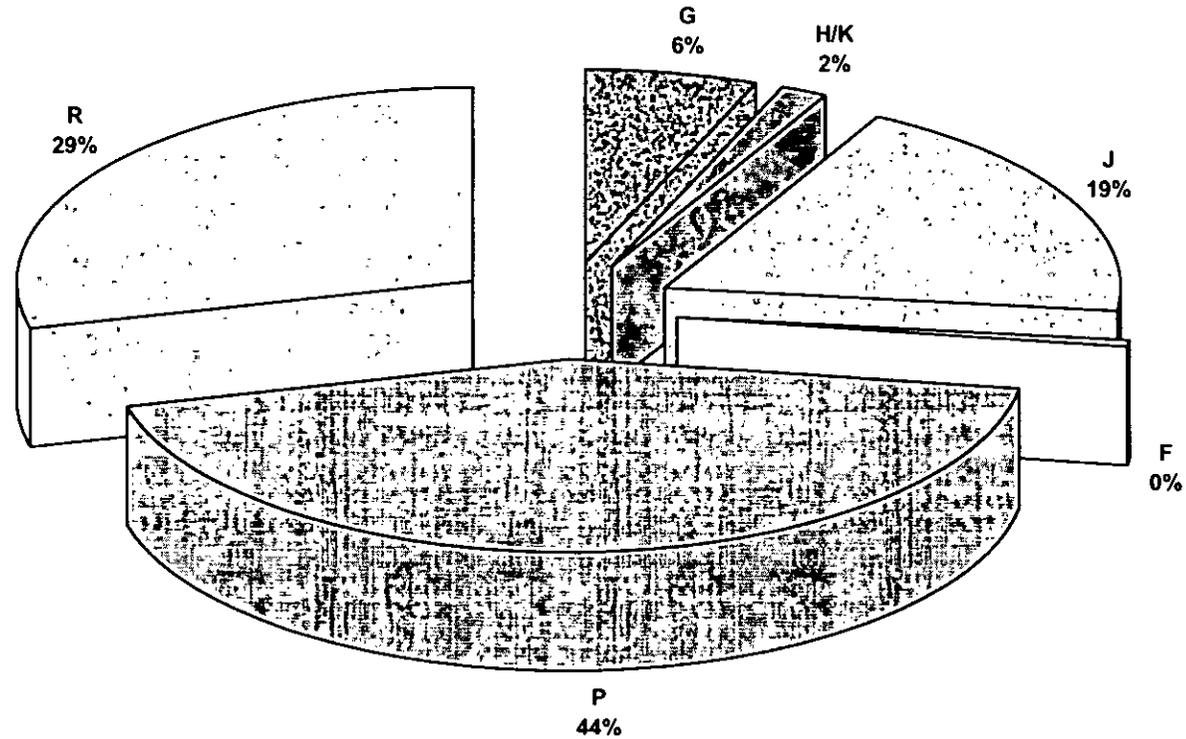
1. During 2005, 86% of MECO's customers on Lana'i were residential (Schedule R). This class accounted for 28% of the total sales and was the second-largest contributor to the annual system peak (29%). Large power customers (Schedule P) accounted for 41% of sales, and were the largest contributor to the annual system peak (44%) and the daytime peak (39%). Table 1.1 is a summary of sales, number of customers and contribution to the system and daytime peaks by rate class during the study period. Class contributions are also shown in Exhibits 1.1 and 1.2.
2. A system peak is the highest demand occurring any time of the day, but on Lana'i in 2005 it occurred between 6:15 PM and 7:48 PM, except in July when it occurred at 10:48 AM. Schedule P contributed the most to the monthly system peaks, averaging 40% and ranging from 32% to 45%. The large power customers' contribution was highest in December. Schedule R was the second-largest contributor, averaging 33% and ranging from 21% to 45%. Schedule R's contribution was highest in May. Table 1.2 and Exhibit 1.3 summarize the contributions to the monthly system peaks.
3. On Lana'i a daytime peak is the highest demand recorded between midnight and noon. The 2005 monthly daytime peaks occurred between 10:30 and 11:56. Schedule P contributed the most to the monthly daytime peaks, averaging 40% and ranging from 35% to 46%. Schedule P's highest contribution was in January. Schedule J's customers were the second-largest contributors to the daytime peaks (19% to 31%). Table 1.3 and Exhibit 1.4 summarize the contributions to the monthly daytime peaks.
4. The percentage contributions to the system peaks and to the daytime peaks from Schedules G (6% and 7%, respectively) and H (2% to both) were fairly constant throughout the year.
5. With the exceptions of Schedule F, Public Street Lighting, the commercial classes peak on weekdays, during the on-peak period (7 AM - 9 PM). Due to the nature of the class, Schedule F always attains its peak shortly after sunset and maintains it until a few minutes before sunrise. Schedule R peaked on a Monday during the priority peak period. As Table 1.4 shows, none of the rate classes had a class peak coincident with the annual system peak on December 27, 2005.
6. The load factor measures how efficiently the system's generating capacity is being used. It is the ratio of the total energy consumed during a given period to the energy which could have been consumed had the peak demand been sustained for the entire duration of the period. The higher the load factor, the flatter the load profile of the class or system being studied. Table 1.5 shows

that in 2005 Schedule H had the highest load factor, 73%, followed by Schedule P at 72% and Schedule G at 61%. Schedule F had the lowest load factor, 36%, followed by Schedule R at 46% and Schedule J at 56%. Based on the recorded kWh and system peak, the annual load factor for the total system was 67%.

7. In 2005, the average system load on weekdays was 1% to 4% higher than the average load on weekends for all months of 2005, except in January, when it was 1% lower.
8. Schedule F - This rate applies only to public street lighting customers, of which there were three in 2005, using an average of 3,155 kWh per month. Schedule F accounted for just 0.4% of the recorded total system sales during 2005, and 0.4% of the annual system peak. Street lighting does not contribute to any daytime peak, and it did not contribute to the instantaneous system peaks in March or June, because those peaks occurred before the streetlights came on. Only 18% of the class' total consumption was during the on-peak period. The annual load factor for Schedule F was 36%.
9. Schedule G - During 2005 this rate schedule served 171 small commercial customers with demands less than 25 kW and monthly consumption under 5,000 kWh. Their average monthly consumption per customer was 913 kWh; the average sample-estimated maximum non-coincident demand per customer was 3.4 kW. In 2005 Schedule G contained 11% of customers, and accounted for 7% of the total kWh sold. Schedule G's annual load factor was 61%; 65% of its usage was on-peak. The average class contribution to the daytime peaks was 7%, which was 1% higher than its average contribution to the system peaks. Schedule G's weekday and weekend load profiles do not show a consistent pattern during the daytime from month to month. Starting at 7 PM its load decreases fairly smoothly to a minimum at 11 PM, except in May through August, when it declines steadily from its midday high. From 7 AM until 8 PM Schedule G's weekday loads averaged 19% higher than its weekend loads.
10. Schedule H - During 2005, this rate served four customers with commercial cooking, heating, air conditioning and refrigeration loads. Accounting for 2% of the total sales, Schedule H had an average monthly use of 11,251 kWh per customer. The average maximum non-coincident demand per customer for the study period was 22 kW. On-peak usage was 63% of total consumption. The annual load factor was 73%. It contributed only 2% to daytime and system peaks. Schedule H's weekday and weekend load profiles show a daytime peak between 11 AM and noon, followed by a dip between noon and 1 PM, and a return to the mid-day level until 6 PM. Schedule H's weekday loads were 2% higher than its weekend loads.

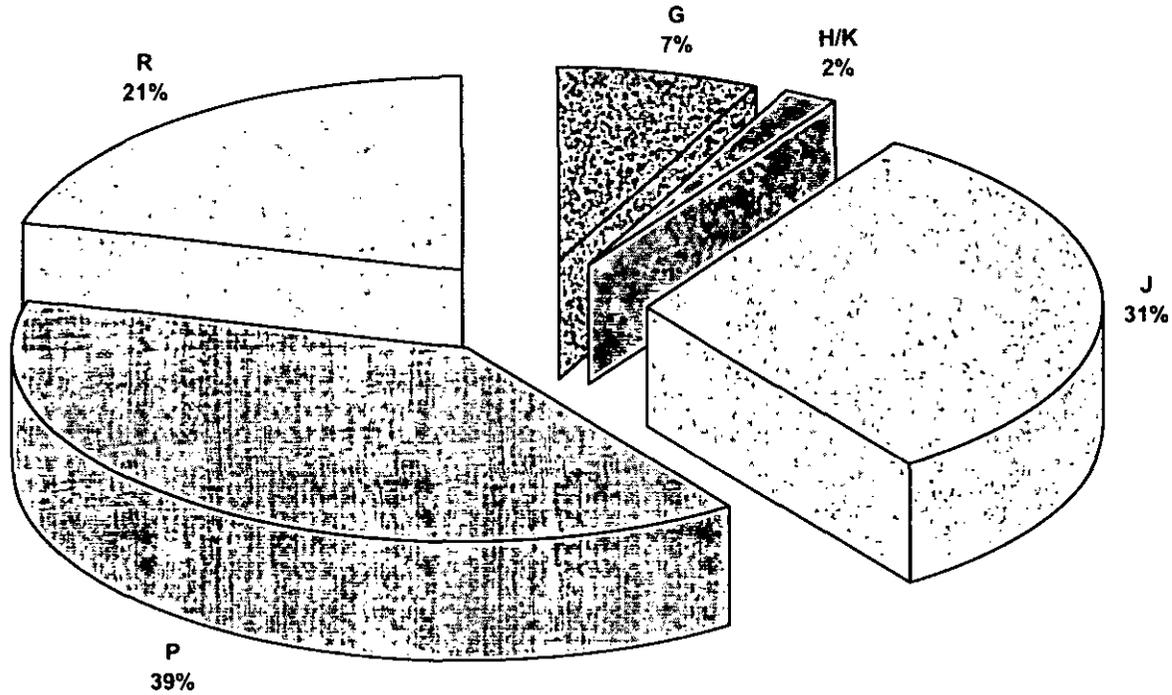
11. Schedule J - This rate applies to commercial customers whose use is above the Schedule G limits of 25 kW and 5,000 kWh per month. During 2005, 33 Schedule J customers averaged 15,046 kWh per month. The average sample-estimated maximum non-coincident demand per customer was 44 kW. Schedule J's annual load factor was 56%; 81% of its usage was on-peak. Schedule J's average contribution to the daytime peaks, 28%, exceeded its contribution to the system peaks, 18%. Schedule J's weekday load profiles were inconsistent from month to month during the daytime. Weekday loads usually declined throughout the afternoon, with a notable drop-off after 6 PM. From 8 AM until 6 PM Schedule J's weekday loads averaged 10% higher than its weekend loads, but after 6 PM weekday and weekend loads were virtually the same.
12. Schedule P - The largest commercial customers are served under Schedule P. The three customers on Schedule P accounted for 41% of the total system energy consumption during 2005. The average recorded monthly consumption per customer was 321,580 kWh. The average maximum non-coincident demand per customer was 561 kW. Schedule P had an annual load factor of 72%; 62% of its consumption occurred on peak. Schedule P's average contribution to the system peaks and to the daytime peaks was 40%. In 2005 Schedule P's weekday and weekend load profiles were nearly identical. They rose slowly throughout the day to reach a peak between 6 PM and 7 PM, with a slight bump between 5 AM and 6 AM. Schedule P's weekday loads averaged 1% higher than its weekend loads.
13. Schedule R - During the study period, Schedule R's 1,342 customers constituted 86% of MECO's customers on Lana'i. The average residential customer used 489 kWh per month, and the average sample-estimated maximum non-coincident demand per customer was 5.1 kW. Schedule R's average contribution to the monthly system peaks was 34%; its average contribution to the daytime peaks was 24%. Residential customers had an annual load factor of 46%; 67% of the total class consumption occurred during the on-peak period (7 AM - 9 PM). Schedule R's 2005 load profiles show a morning peak between 6 AM and 7 AM on weekdays and between 9 AM and 10 AM on weekends. Loads varied little until 4 PM, when they began rising to a peak between 6 PM and 7 PM on weekdays and between 7 PM and 8 PM on weekends, except in November and December, when weekend peaks were also between 6 PM and 7 PM. From 8 AM until 7 PM Schedule R's weekend loads averaged 6% higher than its weekday loads.

Exhibit 1.1
CLASS CONTRIBUTIONS TO THE SYSTEM PEAK



The annual instantaneous system peak of 5.15 MW occurred on December 27, 2005 @ 18:35.

Exhibit 1.2
CLASS CONTRIBUTIONS TO THE DAYTIME PEAK



The annual instantaneous system daytime peak of 4.78 MW occurred on July 28, 2005 @ 10:48.

Table 1.1
SUMMARY STATISTICS
 Customers, Sales and Contributions to Peak Hours, by Rate Class

Rate Class	Number of Customers ¹		Total Sales ¹		Contribution to the System Peak ²		Contribution to the Day Peak ³	
	Average No.	Percent	kWH	Percent	kW	Percent	kW	Percent
F	3	0.2	113,564	0.4	23	0.4	0	0.0
G	171	11.0	1,873,651	6.7	318	6.2	349	7.3
H	4	0.3	540,034	1.9	85	1.6	94	2.0
J	33	2.1	5,973,083	21.4	992	19.3	1,481	31.0
P	3	0.2	11,576,866	41.4	2,261	43.9	1,868	39.1
R	1,342	86.2	7,864,817	28.1	1,472	28.6	989	20.7
Total System	1,556	100.0	27,942,015	100.0	5,150	100.0	4,780	100.0

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUES BY RATE SCHEDULE"
 (Maui Electric Company, Ltd. Accounting Department).

² Contribution to the system load during the hour of the annual instantaneous system peak of 5.15 MW on December 27, 2005 @ 18:35.

³ Contribution to the system load during the hour of the annual instantaneous system daytime peak of 4.78 MW on July 28, 2005 @ 10:48.

Contributions to peaks are normalized to the hourly system gross generation, and, due to rounding, may not sum to the system total.

Table 1.2
 NORMALIZED CLASS CONTRIBUTIONS TO THE SYSTEM PEAKS
 60-Minute Integrated kW Demand at the Gross Generation Level

Month	F	G	H	J	P	R	Total System ¹
JAN	12	292	79	674	1,737	1,956	4,750
FEB	43	361	78	943	1,726	1,524	4,675
MAR	0	304	76	822	1,783	1,690	4,675
APR	29	318	79	929	1,832	1,433	4,620
MAY	23	194	63	815	1,546	2,110	4,750
JUN	0	319	84	879	1,933	1,545	4,760
JUL	0	349	94	1,481	1,868	989	4,780
AUG	28	257	83	763	2,003	1,566	4,700
SEP	4	353	94	1,098	1,930	1,396	4,875
OCT	16	313	75	816	1,947	1,573	4,740
NOV	31	300	72	832	2,174	1,390	4,800
DEC	23	318	85	992	2,261	1,472	5,150

¹ The annual instantaneous system peak of 5.15 MW occurred on December 27, 2005 @ 18:35.

Month	F	G	H	J	P	R	Total System
JAN	0%	6%	2%	14%	37%	41%	100%
FEB	1%	8%	2%	20%	37%	33%	100%
MAR	0%	6%	2%	18%	38%	36%	100%
APR	1%	7%	2%	20%	40%	31%	100%
MAY	0%	4%	1%	17%	33%	44%	100%
JUN	0%	7%	2%	18%	41%	32%	100%
JUL	0%	7%	2%	31%	39%	21%	100%
AUG	1%	5%	2%	16%	43%	33%	100%
SEP	0%	7%	2%	23%	40%	29%	100%
OCT	0%	7%	2%	17%	41%	33%	100%
NOV	1%	6%	2%	17%	45%	29%	100%
DEC	0%	6%	2%	19%	44%	29%	100%

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Table 1.3
NORMALIZED CLASS CONTRIBUTIONS TO THE DAYTIME PEAKS
 60-Minute Integrated kW Demand at the Gross Generation Level

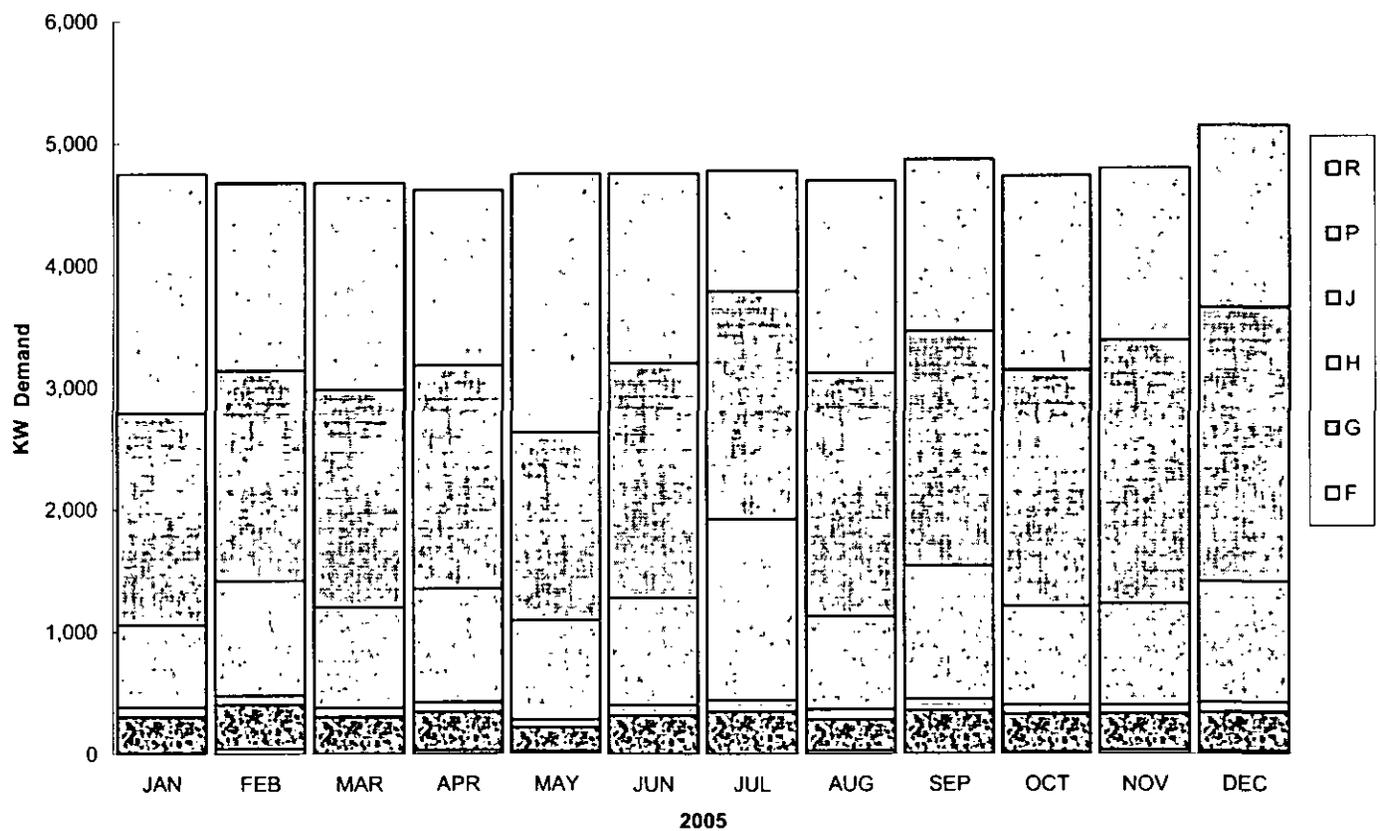
Month	F	G	H	J	P	R	Total System ¹
JAN	0	219	77	806	1,983	1,266	4,350
FEB	0	366	87	1,362	1,555	980	4,350
MAR	0	343	97	1,380	1,737	968	4,525
APR	0	315	81	1,185	1,902	897	4,380
MAY	0	354	90	1,362	1,722	993	4,520
JUN	0	346	102	1,265	1,935	952	4,600
JUL	0	348	93	1,479	1,867	992	4,780
AUG	0	348	89	1,380	1,885	918	4,620
SEP	0	261	92	1,443	1,722	1,102	4,620
OCT	0	291	88	1,197	1,618	1,457	4,650
NOV	0	214	76	1,033	1,927	1,520	4,770
DEC	0	306	85	1,299	1,869	1,171	4,730

¹ The annual instantaneous system daytime peak of 4.78 MW occurred on July 28, 2005 @ 10:48.

Month	F	G	H	J	P	R	Total System
JAN	0%	5%	2%	19%	46%	29%	100%
FEB	0%	8%	2%	31%	36%	23%	100%
MAR	0%	8%	2%	31%	38%	21%	100%
APR	0%	7%	2%	27%	43%	20%	100%
MAY	0%	8%	2%	30%	38%	22%	100%
JUN	0%	8%	2%	28%	42%	21%	100%
JUL	0%	7%	2%	31%	39%	21%	100%
AUG	0%	8%	2%	30%	41%	20%	100%
SEP	0%	6%	2%	31%	37%	24%	100%
OCT	0%	6%	2%	26%	35%	31%	100%
NOV	0%	4%	2%	22%	40%	32%	100%
DEC	0%	6%	2%	27%	40%	25%	100%

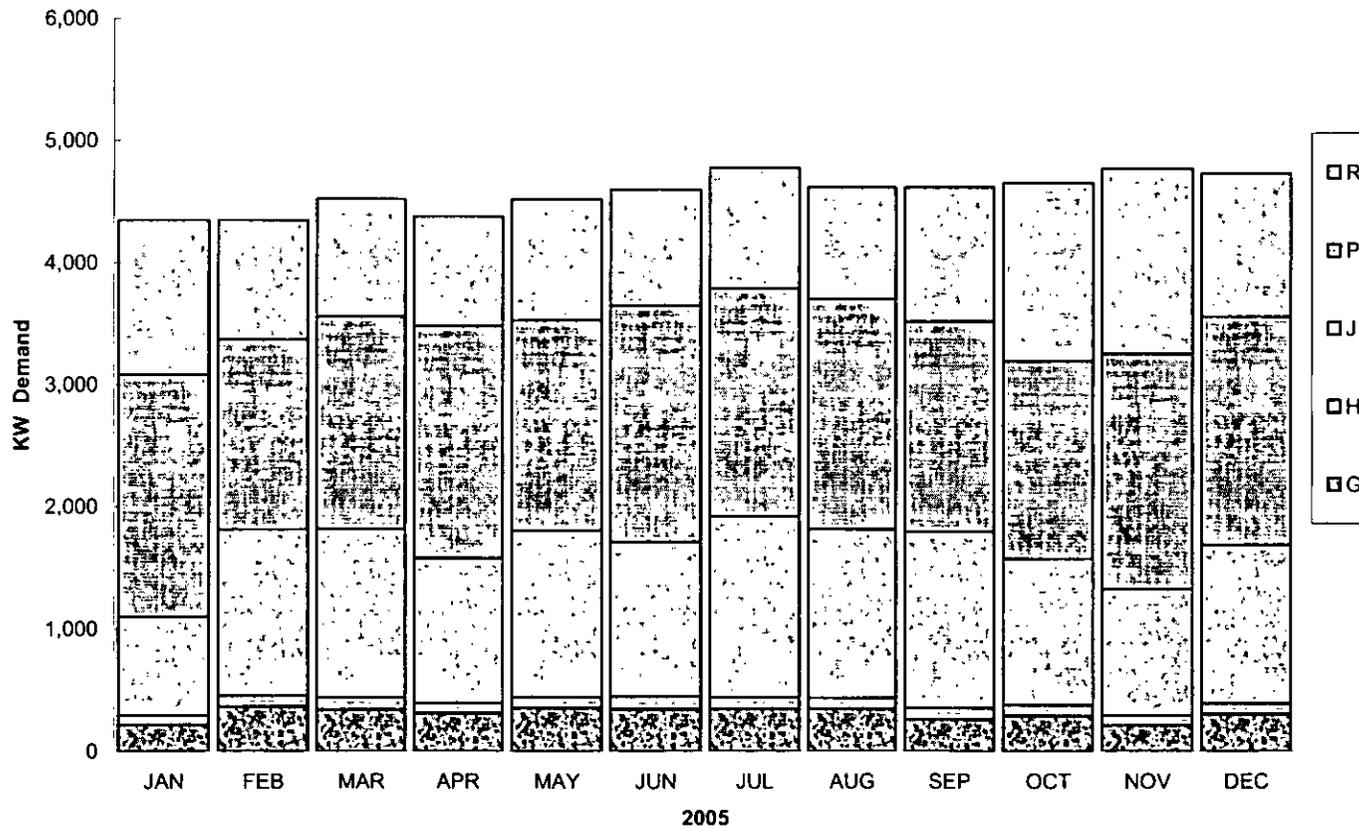
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Exhibit 1.3
 CLASS CONTRIBUTIONS TO THE MONTHLY SYSTEM PEAKS



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Exhibit 1.4
 CLASS CONTRIBUTIONS TO THE MONTHLY DAYTIME PEAKS



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Table 1.4
OCCURRENCE OF THE ANNUAL CLASS PEAK DEMANDS

<u>Rate</u>	<u>Peak Day</u>	<u>Day of the Week</u>	<u>Time-of-Use Period</u>	<u>During the Hour Ending at</u>
F	May 1, 2005	Every Night	On-peak	
G	September 27, 2005	Tuesday	On-peak	Noon
H	June 24, 2005	Friday	On-peak	4:00 PM
J	September 10, 2005	Saturday	On-peak	9:00 AM
P	December 31, 2005	Saturday	On-peak	7:00 PM
R	February 7, 2005	Monday	Priority peak	8:00 PM
Total System	December 27, 2005	Tuesday	Priority peak	7:00 PM

Time-of-Use Period Definition:		
Priority Peak:	5 pm - 9 pm	Monday through Friday
On-peak:	7 am - 5 pm	Monday through Friday
	7 am - 9 pm	Saturday and Sunday
Off-peak:	9 pm - 7 am	Daily

The rate classes' peak days are derived from the study data.
Schedule F is constructed such that each day is an average day; May was its peak month.
The total system peak is the annual instantaneous system peak.

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Table 1.5
SUMMARY OF THE ANNUAL LOAD FACTORS BY RATE CLASS

Rate Class	Load Factor	Total kWh ¹	Class Peak kW ²
F: Street Light Service	36%	122,335	39
G: General Service Non-demand	61%	2,037,442	382
H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service	73%	587,715	92
J: General Service Demand	56%	6,501,991	1,329
P: Large Power Service	72%	12,583,551	1,988
R: Residential Service	46%	8,504,357	2,132
Total System: January - December 2005	67%	30,337,390 ³	5,150 ⁴

Load factor (%) = $100 \times (\text{Total kWh}) / (\text{Peak Demand} \times 8,760 \text{ [the number of hours in the year]})$

¹ The sample estimates of total kWh are at the gross hourly generation level.

² The sample estimates of integrated 60-minute kW demand are also at the gross generation level.

³ Recorded generation is at the gross generation level for January - December 2005.

⁴ The recorded instantaneous peak demand of 5,150 kW is at the gross generation level.

Table 1.6
RECORDED NUMBER OF CUSTOMERS BY RATE CLASS ¹

Month	F	G	H/K	J	P	R	Total
January	3	170	4	33	3	1,331	1,544
February	3	171	4	33	3	1,343	1,557
March	3	169	4	33	3	1,332	1,544
April	3	170	4	33	3	1,331	1,544
May	3	171	4	33	3	1,336	1,550
June	3	167	4	33	3	1,341	1,551
July	3	170	4	33	3	1,332	1,545
August	3	172	4	33	3	1,341	1,556
September	3	173	4	33	3	1,349	1,565
October	3	173	4	34	3	1,354	1,571
November	3	173	4	31	3	1,358	1,572
December	3	173	4	35	3	1,350	1,568
Average	3	171	4	33	3	1,342	1,556
Percent of Total	0.2%	11.0%	0.3%	2.1%	0.2%	86.2%	100.0%

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE"
(Maui Electric Company, Ltd. Accounting Department).

Table 1.7
 RECORDED KWH vs SAMPLE-BASED ESTIMATE OF KWH AT THE SALES LEVEL
 Schedule G: General Service Non-Demand

Month	RECORDED			SAMPLE-BASED ESTIMATE		DIFFERENCE IN TOTAL KWH	
	Total kWh ¹	No. of Customers	Average kWh	Average kWh	Total kWh ²	kWh	%
January	150,350	170	884	838	142,461	-7,889	-5.2
February	142,452	171	833	759	129,796	-12,656	-8.9
March	155,798	169	922	902	152,449	-3,349	-2.1
April	146,671	170	863	870	147,876	1,205	0.8
May	164,967	171	965	927	158,438	-6,529	-4.0
June	162,812	167	975	946	157,953	-4,859	-3.0
July	156,317	170	920	974	165,603	9,286	5.9
August	163,360	172	950	1,028	176,748	13,388	8.2
September	165,249	173	955	962	166,426	1,177	0.7
October	161,223	173	932	1,006	173,970	12,747	7.9
November	152,189	173	880	924	159,928	7,739	5.1
December	152,263	173	880	913	157,944	5,681	3.7
Average	156,138	171	913	921	157,466	1,328	0.9

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE" (Maui Electric Company, Ltd. Accounting Department)

² The sample-based estimate is a ratio estimate.

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Table 1.8
RECORDED KWH vs SAMPLE-BASED ESTIMATE OF KWH AT THE SALES LEVEL
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service

Month	RECORDED			SAMPLE-BASED ESTIMATE		DIFFERENCE IN TOTAL KWH	
	Total kWh ¹	No. of Customers	Average kWh	Average kWh	Total kWh ²	kWh	%
January	44,367	4	11,092	11,049	44,196	-171	-0.4
February	39,159	4	9,790	9,654	38,614	-545	-1.4
March	43,520	4	10,880	10,799	43,194	-326	-0.7
April	41,582	4	10,396	10,923	43,692	2,110	5.1
May	47,362	4	11,841	11,804	47,216	-146	-0.3
June	49,290	4	12,323	11,726	46,904	-2,386	-4.8
July	44,736	4	11,184	12,063	48,252	3,516	7.9
August	48,301	4	12,075	12,070	48,279	-22	0.0
September	47,546	4	11,887	11,881	47,525	-21	0.0
October	46,947	4	11,737	11,728	46,914	-33	-0.1
November	43,481	4	10,870	10,898	43,593	112	0.3
December	43,743	4	10,936	11,032	44,128	385	0.9
Average	45,003	4	11,251	11,302	45,209	206	0.5

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE"
 (Maui Electric Company, Ltd. Accounting Department)

² The sample-based estimate is a ratio estimate.

Table 1.9
 RECORDED KWH vs SAMPLE-BASED ESTIMATE OF KWH AT THE SALES LEVEL
 Schedule J: General Service Demand

Month	RECORDED			SAMPLE-BASED ESTIMATE		DIFFERENCE IN TOTAL KWH	
	Total kWh ¹	No. of Customers	Average kWh	Average kWh	Total kWh ²	kWh	%
January	400,835	33	12,147	13,996	461,880	61,045	15.2
February	448,932	33	13,604	12,935	426,857	-22,075	-4.9
March	497,027	33	15,061	14,742	486,496	-10,531	-2.1
April	470,265	33	14,250	14,534	479,636	9,371	2.0
May	532,032	33	16,122	15,524	512,304	-19,728	-3.7
June	490,792	33	14,872	15,500	511,503	20,711	4.2
July	521,063	33	15,790	15,733	519,187	-1,876	-0.4
August	543,353	33	16,465	16,150	532,947	-10,406	-1.9
September	586,424	33	17,770	15,747	519,643	-66,781	-11.4
October	513,577	34	15,105	15,939	541,929	28,352	5.5
November	461,290	31	14,880	14,890	461,576	286	0.1
December	507,493	35	14,500	15,174	531,106	23,613	4.7
Average	497,757	33	15,047	15,072	498,755	998	0.2

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE" (Maui Electric Company, Ltd. Accounting Department)

² The sample-based estimate is a ratio estimate.

Table 1.10
 RECORDED KWH vs SAMPLE-BASED ESTIMATE OF KWH AT THE SALES LEVEL
 Schedule P: Large Power Service

Month	RECORDED			SAMPLE-BASED ESTIMATE		DIFFERENCE IN TOTAL KWH	
	Total kWh ¹	No. of Customers	Average kWh	Average kWh	Total kWh ²	kWh	%
January	932,837	3	310,946	315,489	946,468	13,631	1.5
February	809,805	3	269,935	273,603	820,808	11,003	1.4
March	864,916	3	288,305	302,050	906,151	41,235	4.8
April	943,505	3	314,502	299,396	898,187	-45,318	-4.8
May	975,532	3	325,177	317,059	951,178	-24,354	-2.5
June	1,031,312	3	343,771	319,130	957,390	-73,922	-7.2
July	1,003,899	3	334,633	331,583	994,750	-9,149	-0.9
August	977,960	3	325,987	319,000	956,999	-20,961	-2.1
September	984,648	3	328,216	324,422	973,266	-11,382	-1.2
October	1,030,350	3	343,450	345,883	1,037,650	7,300	0.7
November	959,344	3	319,781	352,652	1,057,955	98,611	10.3
December	1,062,758	3	354,253	358,801	1,076,403	13,645	1.3
Average	964,739	3	321,580	321,589	964,767	28	0.0

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE" (Maui Electric Company, Ltd. Accounting Department)

² The sample-based estimate is a ratio estimate.

Table 1.11
 RECORDED KWH vs SAMPLE-BASED ESTIMATE OF KWH AT THE SALES LEVEL
 Schedule R: Residential Service

Month	RECORDED			SAMPLE-BASED ESTIMATE		DIFFERENCE IN TOTAL KWH	
	Total kWh ¹	No. of Customers	Average kWh	Average kWh	Total kWh ²	kWh	%
January	722,784	1,331	543	520	692,595	-30,189	-4.2
February	595,083	1,343	443	467	626,781	31,698	5.3
March	643,072	1,332	483	517	688,252	45,180	7.0
April	648,991	1,331	488	476	632,894	-16,097	-2.5
May	674,029	1,336	505	498	665,192	-8,837	-1.3
June	634,782	1,341	473	469	628,886	-5,896	-0.9
July	687,835	1,332	516	501	667,585	-20,250	-2.9
August	630,388	1,341	470	518	694,818	64,430	10.2
September	655,042	1,349	486	525	708,218	53,176	8.1
October	655,738	1,354	484	489	662,481	6,743	1.0
November	628,918	1,358	463	471	640,251	11,333	1.8
December	688,155	1,350	510	484	652,759	-35,396	-5.1
Average	655,401	1,342	489	495	663,393	7,991	1.2

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE"
 (Maui Electric Company, Ltd. Accounting Department)

² The sample-based estimate is a ratio estimate.

Table 1.12
 RECORDED KWH vs SAMPLE-BASED ESTIMATE OF KWH AT THE SALES LEVEL
 Total System

Month	RECORDED			SAMPLE-BASED ESTIMATE		DIFFERENCE IN TOTAL KWH	
	Total kWh ¹	No. of Customers	Average kWh	Average kWh	Total kWh ²	kWh	%
January	2,259,125	1,544	1,463	1,487	2,295,552	36,427	1.6
February	2,046,478	1,557	1,314	1,319	2,053,903	7,425	0.4
March	2,213,546	1,544	1,434	1,480	2,285,755	72,209	3.3
April	2,259,766	1,544	1,464	1,432	2,211,036	-48,730	-2.2
May	2,404,886	1,550	1,552	1,513	2,345,291	-59,595	-2.5
June	2,377,940	1,551	1,533	1,490	2,311,588	-66,352	-2.8
July	2,422,834	1,545	1,568	1,556	2,404,361	-18,473	-0.8
August	2,374,017	1,556	1,526	1,556	2,420,446	46,429	2.0
September	2,448,411	1,565	1,564	1,549	2,424,581	-23,830	-1.0
October	2,416,330	1,571	1,538	1,573	2,471,439	55,109	2.3
November	2,255,496	1,572	1,435	1,510	2,373,577	118,081	5.2
December	2,463,186	1,568	1,571	1,576	2,471,114	7,928	0.3
Average	2,328,501	1,556	1,497	1,503	2,339,054	10,552	0.5

¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE" (Maui Electric Company, Ltd. Accounting Department)

² The sample-based estimate is a ratio estimate.

Table 1.13
TOTAL SYSTEM KWH BY TIME-OF-USE AT THE SALES LEVEL ¹

Rate	Priority Peak		On-Peak		Off-Peak		Total kWh	% of Total System
	kWh	%	kWh	%	kWh	%		
F	14,268	0.4%	6,653	0.0%	92,643	1.0%	113,564	0.4%
G	239,086	6.4%	971,952	6.7%	662,614	6.9%	1,873,651	6.7%
H	64,455	1.7%	277,374	1.9%	198,205	2.1%	540,034	1.9%
J	668,584	17.9%	3,575,002	24.5%	1,729,497	17.9%	5,973,083	21.4%
P	1,461,726	39.2%	5,744,611	39.4%	4,370,529	45.3%	11,576,866	41.4%
R	1,285,527	34.4%	3,988,627	27.4%	2,590,663	26.9%	7,864,817	28.1%
Total	3,733,646	100.0%	14,564,218	100.0%	9,644,151	100.0%	27,942,015	100.0%

Time-of-Use Period Definition:	
Priority Peak:	5 pm - 9 pm Monday through Friday
On-peak:	7 am - 5 pm Monday through Friday
	7 am - 9 pm Saturday and Sunday
Off-peak:	9 pm - 7 am Daily

¹ Normalized sample estimates.

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2. SAMPLE DESIGN

In 2001 Hawaiian Electric Company, Inc. (HECO) contracted with RLW Analytics, Inc., of Sonoma, California, to design and draw the sample. RLW Analytics specializes in designing load studies to accurately estimate the contribution to system peaks by each rate class. This section begins with an overview of their methodology and then describes the Lana'i design and sample.

A. INTRODUCTION TO MBSS SAMPLE DESIGN AND ANALYSIS*

This section provides a very concise summary of model-based statistical sampling (MBSS) for load research.

Background

MBSS is grounded in the theory of model assisted survey sampling developed by C. E. Sarndal and others.¹ Over twenty years, I have made several advances in the theory needed for load research applications, including the methodology of efficient stratification and the definition of the error ratio. My colleagues at RLW Analytics and I teach MBSS and conventional methodology in the AEIC *Advanced Methods in Load Research* seminar. This methodology is also documented in a recent report entitled *The California Evaluation Framework*.² Although MBSS is a fairly recent development in load research practice, it has been used in countless load research and program evaluation studies. It has also been examined in public utility hearings and in two EPRI studies.

Load Research Life Cycle

Exhibit 2.1 on the following page presents a graphical representation of the Load Research Study Lifecycle. Starting in the upper left-hand corner of the figure, the typical load research project begins with a need for information. Moving clockwise around the graph, in preliminary planning we estimate the required sample size informed by models based on prior experience. Then detailed sample designs are developed using the models with billing data for the target population.

The next step is to select the sample and backups, install interval meters and start collecting the sample data. Our analysis task is to expand the sample data to the population of interest and to assess the statistical precision. In typical studies, the 8760-hour class expansions and the resulting statistical precision are the key analysis results.

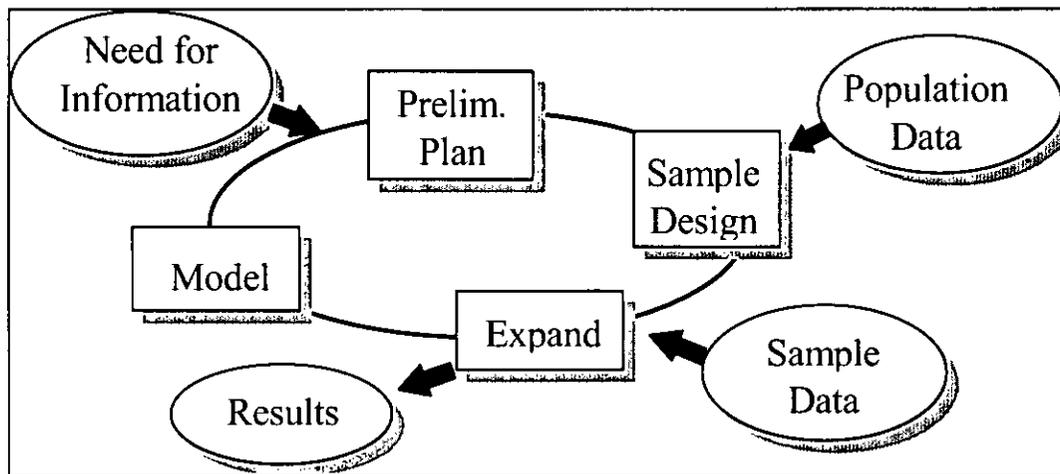
* This section was written by Roger Wright, Ph. D., President, RLW Analytics, Inc., Sonoma, CA.

¹ *Model Assisted Survey Sampling*, by Carl Erik Sarndal, Bengt Swensson and Jan Wretman, Springer-Verlag, 1992.

² The report can be downloaded from the website <http://www.calmac.org/calmac-filings.asp>

Exhibit 2.1

Load Research Study Lifecycle



Following the class expansions, we complete the cycle by modeling the relationship between our dependent variables of interest and our independent variable. These models are used to inform the planning process when future sample designs are required.

MBSS Design and Analysis

MBSS uses a statistical model to guide the planning and the sample design. The parameters of the model, especially the error ratio, are used to represent prior information about the population to be sampled. The model describes the nature of the variation in the relationship between any target y -variable of the study and one or more x -variables that can be developed from known billing data and other supporting information. The y -variable can be any of the 8,760 hourly demands of each customer or any function thereof. The x -variables is usually the customer's monthly or annual use or billed non-coincident demand. The model is used to help choose the sample size n and to help formulate a sample design with efficient stratification for stratified ratio estimation.

The model is used as a *guide* to the sample design, but the results of the study itself are *not* strongly dependent on the accuracy of the model.³ Once the sample design is selected, the subsequent analysis of the data is usually based only on the sample design and not on the model used to develop the sample design. In particular, conventional stratified-sampling techniques can be used to analyze the sample data collected from an MBSS sample design. The resulting estimates will

³ Other methods, called model-dependent sampling, are much more dependent on the accuracy of the model. Such methods are not recommended in load research applications since they would be more difficult to defend than MBSS and conventional methods.

be essentially unbiased in repeated sampling and the confidence intervals will also be valid, provided that the sample design has been followed to select the sample customers. The results will be consistent with traditional sampling theory as found in texts such as Cochran's *Sampling Techniques* and consistent with standard load and market research practice.

Stratified Ratio Estimation

We assume that a load research study is to be conducted of a given population of N accounts in a given rate class or market segment. In the study, a load research interval recorder will be used to measure the use of electricity of each sample customer on an hourly basis.⁴ We let y denote any customer characteristic to be determined from the customer's interval load data, and we let x denote any suitable characteristic of the customer's usage that is known from billing data such as annual use.⁵

We define the population ratio B by the equation

$$B = \frac{\sum_{i=1}^N y_i}{\sum_{i=1}^N x_i} .$$

Here the summations are over the entire N units (e.g., accounts, customers or premises) in the target population. We note that the population mean or total of y is equal to B times the population mean or total of x . The latter is assumed to be known from the billing data.

We assume that a sample of n customers is selected following a stratified sample design. For each sample customer we define the case weight w to be equal to the number of customers in the target population within the stratum containing the given customer divided by the number of customers in the sample within the given stratum. The case weight is used to avoid any bias that might otherwise arise from the different sampling fractions used from one stratum to another.

Using the case weight, we define the combined ratio estimator of B by the equation:⁶

⁴ Although we will speak of hourly usage, it is common to record usage on a 30-minute or 15-minute basis.
⁵ Instead of annual use, x may denote use in a given month or season, or noncoincident demand if the customer is demand metered.

⁶ This equation gives the same result as the more familiar stratum-weighted equation: $b = \frac{\sum_{h=1}^H N_h \bar{y}_h}{\sum_{h=1}^H N_h \bar{x}_h} .$

$$b = \frac{\sum_{i=1}^n w_i y_i}{\sum_{i=1}^n w_i x_i}$$

Then, if desired, the population mean or total of y can be estimated as b times the population mean or total of x , known from the billing data.

Using the case weights, we calculate the relative precision at the 90% level of confidence as follows:

1. Calculate the sample residual $y_i - b x_i$ for each unit in the sample.

2. Calculate $se(b) = \frac{\sqrt{\sum_{i=1}^n w_i (w_i - 1) e_i^2}}{\sum_{i=1}^n w_i x_i}$.

3. Calculate $rp = \frac{1.645 se(b)}{b}$.

A 90% confidence interval for B is calculated using the equation $b \pm rp b$. A confidence interval for the mean or total can be calculated in a similar way.

We can also use the sample data to estimate a measure of population variability called the error ratio, denoted er . The error ratio, defined in the next section, is the key determinant of the expected relative precision, along with the sample size n . We estimate the error ratio from the sample using the following equation:

$$\hat{er} = \frac{\sqrt{\left(\sum_{i=1}^n w_i e_i^2 / x_i^\gamma \right) \left(\sum_{i=1}^n w_i x_i^\gamma \right)}}{\sum_{i=1}^n w_i y_i}$$

The parameter γ is defined in the next section. In load research applications it is usually taken to be 0.8. We will not attempt to interpret the preceding equation here, but we will give meaning to the error ratio itself in the following section.

Sample Design

The ratio model is the key to choosing the appropriate sample size n and developing an efficiently stratified sample design. The ratio model describes the relationship between y and x for the set of all units in the population.

The model consists of two equations called the primary and secondary equations respectively:

$$y_i = \beta x_i + \varepsilon_i$$

$$\sigma_i = sd(\varepsilon_i) = \sigma_0 x_i^\gamma$$

Here i denotes any customer, account or premise in the target population. $x_i > 0$ is usually known throughout the population. The primary equation describes the relationship between the y -variable of interest and the x -variable used in the ratio estimate, i.e., annual use. Since we assume that $E(\varepsilon_i) = 0$, the primary equation can also be written as $\mu_i = E(y_i) = \beta x_i$. Here μ_k denotes the expected value of y for unit i . The primary equation says that under the model, the expected value of y_i is equal to a fixed constant β times the x_i .

The quantity, $\varepsilon_i = y_i - \mu_i$, is called the residual. The N residuals are considered to be N independent random variables. The standard deviation of ε_i is denoted as σ_i . We refer to σ_i as the residual standard deviation of each customer i . The secondary equation is used to estimate the residual standard deviation, and to guide the development of an efficient sample design.

To summarize, under the ratio model, the target variable y_i is a random variable with expected value μ_i and standard deviation σ_i . The expected value μ_i is determined by the primary equation of the model. The standard deviation σ_i is determined by the secondary equation of the model. There are three parameters in the model: β (beta), σ_0 (sigma-naught), and γ (gamma).

Now we are finally positioned to define the error ratio. The error ratio is defined by the equation:

$$er = \frac{\sum_{i=1}^N \sigma_i}{\sum_{i=1}^N \mu_i}$$

As we will see in the next section, the error ratio is the key measure of variability when stratified ratio estimation is to be used to analyze the data.

Choosing the Sample Size

We assume that stratified ratio estimation is planned and that an efficiently stratified sample design will be used. We also assume that the ratio model

provides a reasonably accurate description of the relationship between y and x in the target population.

If the population size N is large, then the expected relative precision is given by the equation: $rp = 1.645 \frac{er}{\sqrt{n}}$. If the population is smaller, the finite population

correction factor can be added, giving $rp = 1.645 \sqrt{1 - \frac{n}{N}} \frac{er}{\sqrt{n}}$. If the desired

relative precision is specified, then the preceding equations can be solved to determine the required n . If the population size N is large, we have

$n = \left(\frac{1.645 er}{rp} \right)^2$. If the population is smaller, the sample size can be calculated in

two steps. First, calculate $n_0 = \left(\frac{1.645 er}{rp} \right)^2$. Then calculate $n = \frac{n_0}{1 + n_0/N}$.

The preceding equations are generally sufficient to develop a preliminary plan. Added issues must usually be resolved to develop a detailed sample design. First, there are usually many y -variables of interest: all 8,760 hours as well as the relevant cost allocators such as the total demand during the 12-monthly system peak hours. Second, it is often necessary to consider the expected statistical precision in various segments of the target populations. Third, there are usually limits on the sample size or other resource constraints. Added methodology is available to address issues such as these.

Efficient Stratification

The preceding results assume that the sample is efficiently stratified. Under the ratio model, an efficiently stratified sample design can be developed in the following steps:

1. Use the sampling frame and the assumed model to calculate σ_i for each customer in the population.
2. Choose the desired number of strata,⁷
3. Sort the sampling frame by increasing σ_i .
4. Choose stratum cut points to divide the sum of the σ_i approximately equally between the strata.
5. Allocate an equal number of sample customers to each stratum.
6. Make added adjustments if the sample size exceeds the population size in any stratum.

⁷ With MBSS methodology we can systematically assess the gain from increased stratification. These studies indicate that five annual-use strata are usually sufficient in most load research applications. Some applications may call for added stratification by seasonal use, customer load factor, etc.

Under the ratio model, σ_i is determined by the x-variable together with the value of γ . Methods are available for estimating γ from a sample. Indeed, we have estimated γ in numerous load research studies. We have found that the estimated values are clustered around 0.8. We have also found that the key results are not very sensitive to γ . Therefore, in load research applications, we generally recommend the use of $\gamma = 0.8$ both in constructing strata as discussed in this section and in estimating the value of the error ratio from a given sample as discussed in the prior section.

Summary

Extensive experience indicates that stratified ratio estimation is very effective in almost all load research applications. MBSS methods are generally grounded on the same principles as conventional sampling methods such as Dalenius Hodges stratification and Neyman allocation, but MBSS methods are specifically tailored to ratio estimation. Some methods for calculating sample sizes that load researchers have commonly used in the past can provide badly misleading results for ratio estimation. The MBSS approach addresses these problems and provides a coherent, consistent approach to both sample design and analysis. The MBSS methodology follows the life cycle of load research studies very nicely.

A bonus of the MBSS methodology is its strength for multiple y-variables and domains estimation. At the sample design stage, MBSS provides straightforward methods for assessing the statistical precision expected for various y-variables and domains of interest. At the analysis stage, MBSS again provides straightforward methods for developing estimates and their statistical precision for various y-variables and domains, as well as for estimating the associated error ratios. In the past it has been thought to be risky to report results for domains that were not factored into the sample design. MBSS methodology has shown that meaningful results can generally be developed for questions that arise later in the study, much after the planning stage.

B. LANA'I SAMPLE**

The primary purpose of a class load study is to determine the contributions of each customer class to peak loads. Previous HECO class load studies were designed for $\pm 5\%$ precision at the 95% level of confidence for monthly kWh or maximum monthly kW, depending on rate class. It was assumed that if the sample closely matches the class' average energy use or average maximum demand, the sample-based estimates of contributions to system peaks will closely match the class' contributions.

The availability of load data from 1995 made it possible for RLW Analytics, Inc. to design the 2003 sample around the precision of the estimates at system peaks. For the Lana'i sample, the sample design allocated 71 meters to the study. This was sufficient to provide an expected $\pm 10\%$ relative precision at the 90% level of confidence in each rate class for the 12-month contribution to system peak. The Lana'i sample design by rate is presented in Table 2.1, on the following page. The stratum cut points are shown on an annual use basis. The population count and total use are based on 2005 population billing information.

C. REPRESENTATIVENESS OF THE LANA'I SAMPLE

Because load patterns and load levels can vary significantly between business types, the selected sample should adequately represent the composition of the commercial rate classes.

Tables 2.2 and 2.3 compare the percentage of accounts in each business group in the population and in the sample for Schedules G and J.

Using a statistical significance level of 5%, in the Schedule G sample, amusements are over-represented by three accounts.

In the Schedule J sample, no groups are significantly under- or over-represented, But that is largely due to the fact that the sample is small (n=15).

Table 2.4 shows the precision of the sample design. All but one of the sampled rate classes were within $\pm 1\%$ of the population's average kWh over the year. The exception, Rate R, was 1.2% higher than the estimated population average.

** Sections B and C were written by Ralph B. Earle, Ph. D., Forecasts & Research, Hawaiian Electric Co., Inc.

Table 2.1
LANA'I SAMPLE DESIGN

Stratified Sampling Design
For a Confidence Level of 90% and Precision Level of 10% at System Peaks

Rate Class	Stratum	Stratum Cutpoint (kWh/year)	Population 2005 Total kWh	Population 2005 N	Sample n
G	1	6,396	197,800	103	6
G	2	16,572	381,485	33	6
G	3	30,000	415,981	17	6
G	4	46,608	366,056	9	6
G	5	Maximum	512,329	9	6
	Total		1,873,651	171	
H	Data was obtained from the four H/K accounts in the population.				
J	1	99,636	685,565	11	2
J	2	185,784	1,220,049	9	2
J	3	261,336	1,297,664	6	2
J	4	437,160	1,514,341	5	1
J	5	Maximum	1,255,463	2	2
	Total		5,973,083	33	
P	Data was obtained from the two P accounts in the population.*				
R	1	3,607	1,033,065	460	6
R	2	5,173	1,228,949	281	6
R	3	6,949	1,493,788	244	6
R	4	9,631	1,710,863	207	6
R	5	Maximum	2,398,152	150	6
	Total		7,864,817	1,342	

¹ Six sample accounts were chosen on the basis of energy use in 2003. By 2005, however, two of the three accounts in stratum 5 had dropped into stratum 4, and three others transferred to Rate J.

* A third PL account is a conjunctively-billed set of seven meters.

Table 2.2
SCHEDULE G ACCOUNTS BY TYPE OF BUSINESS
TOTAL SCHEDULE vs SAMPLE

<u>Business Group</u>	<u>Total Schedule</u>	<u>Sample</u>
Agricultural Pumping	2%	0%
Air Transportation Facilities	0%	0%
Amusement	7%	21%
Board of Water Supply/Dept. of Wastewater Mgmt.	2%	4%
Cold Storage	0%	0%
Communications	7%	11%
Construction	9%	7%
Educational Facilities	6%	7%
Farming	1%	4%
Food Product Processors	0%	0%
Groceries	2%	7%
Health Facilities	2%	4%
Hotels	12%	11%
Housing	0%	0%
Manufacturing	6%	4%
Military Bases	0%	0%
Office Buildings	22%	7%
Other Pumping	5%	4%
Other/None	5%	0%
Restaurants	1%	0%
Retail - Non-Food	5%	0%
Services	5%	4%
Street Lighting	2%	4%
Wholesale	3%	4%
Total	100%	100%

Table 2.3
SCHEDULE J ACCOUNTS BY TYPE OF BUSINESS
TOTAL SCHEDULE vs SAMPLE

Business Group	Total Schedule	Sample
Agricultural Pumping	0%	0%
Air Transportation Facilities	3%	7%
Amusement	8%	7%
Board of Water Supply/Dept. of Wastewater Mgmt.	8%	13%
Cold Storage	0%	0%
Communications	8%	13%
Construction	3%	0%
Educational Facilities	8%	7%
Farming	0%	0%
Food Product Processors	6%	7%
Groceries	0%	0%
Health Facilities	0%	0%
Hotels	6%	13%
Housing	0%	0%
Manufacturing	0%	0%
Military Bases	0%	0%
Office Buildings	14%	13%
Other Pumping	17%	7%
Other/None	0%	0%
Restaurants	0%	0%
Retail - Non-Food	3%	0%
Services	11%	7%
Street Lighting	6%	7%
Wholesale	0%	0%
Total	100%	100%

Table 2.4
SAMPLE PRECISION
Population and Sample Statistics

Month	G			H			J		
	Average kWh		Difference	Average kWh		Difference	Average kWh		Difference
	Recorded	Sample	%	Recorded	Sample	%	Recorded	Sample	%
January	884	838	-5.2%	11,092	11,049	-0.4%	12,147	13,996	15.2%
February	833	759	-8.9%	9,790	9,654	-1.4%	13,604	12,935	-4.9%
March	922	902	-2.1%	10,880	10,799	-0.7%	15,061	14,742	-2.1%
April	863	870	0.8%	10,396	10,923	5.1%	14,250	14,534	2.0%
May	965	927	-4.0%	11,841	11,804	-0.3%	16,122	15,524	-3.7%
June	975	946	-3.0%	12,323	11,726	-4.8%	14,872	15,500	4.2%
July	920	974	5.9%	11,184	12,063	7.9%	15,790	15,733	-0.4%
August	950	1,028	8.2%	12,075	12,070	0.0%	16,465	16,150	-1.9%
September	955	962	0.7%	11,887	11,881	0.0%	17,770	15,747	-11.4%
October	932	1,006	7.9%	11,737	11,728	-0.1%	15,105	15,939	5.5%
November	880	924	5.1%	10,870	10,898	0.3%	14,880	14,890	0.1%
December	880	913	3.7%	10,936	11,032	0.9%	14,500	15,174	4.7%
Average	913	921	0.8%	11,251	11,302	0.5%	15,047	15,072	0.2%

Month	P			R			TOTAL SYSTEM ¹		
	Average kWh		Difference	Average kWh		Difference	Total MWh		Difference
	Recorded	Sample	%	Recorded	Sample	%	Recorded	Sample	%
January	310,946	315,489	1.5%	543	520	-4.2%	1,463	1,487	1.6%
February	269,935	273,603	1.4%	443	467	5.3%	1,314	1,319	0.4%
March	288,305	302,050	4.8%	483	517	7.0%	1,434	1,480	3.3%
April	314,502	299,396	-4.8%	488	476	-2.5%	1,464	1,432	-2.2%
May	325,177	317,059	-2.5%	505	498	-1.3%	1,552	1,513	-2.5%
June	343,771	319,130	-7.2%	473	469	-0.9%	1,533	1,490	-2.8%
July	334,633	331,583	-0.9%	516	501	-2.9%	1,568	1,556	-0.8%
August	325,987	319,000	-2.1%	470	518	10.2%	1,526	1,556	2.0%
September	328,216	324,422	-1.2%	486	525	8.1%	1,564	1,549	-1.0%
October	343,450	345,883	0.7%	484	489	1.0%	1,538	1,573	2.3%
November	319,781	352,652	10.3%	463	471	1.8%	1,435	1,510	5.2%
December	354,253	358,801	1.3%	510	484	-5.1%	1,571	1,576	0.3%
Average	321,580	321,589	0.0%	489	495	1.2%	1,497	1,503	0.4%

Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUES BY RATE SCHEDULE" (Maui Electric Company, Ltd. Accounting Department).

¹ Includes Rate F.

3. DATA COLLECTION, ANALYSIS AND EXTRAPOLATION

A. DATA COLLECTION

Meters and recorders were installed in 2004. The type of meter used at a location was determined by the customer's size and type of service.

Most of the collection of 15-minute interval pulse data was done using ITRON handheld devices; meters at fourteen large accounts were interrogated directly over telephone lines. The data was downloaded to a PC and translated using MV-90 software. It was then edited, validated and analyzed. Exhibit 3.1 depicts the load research procedure.

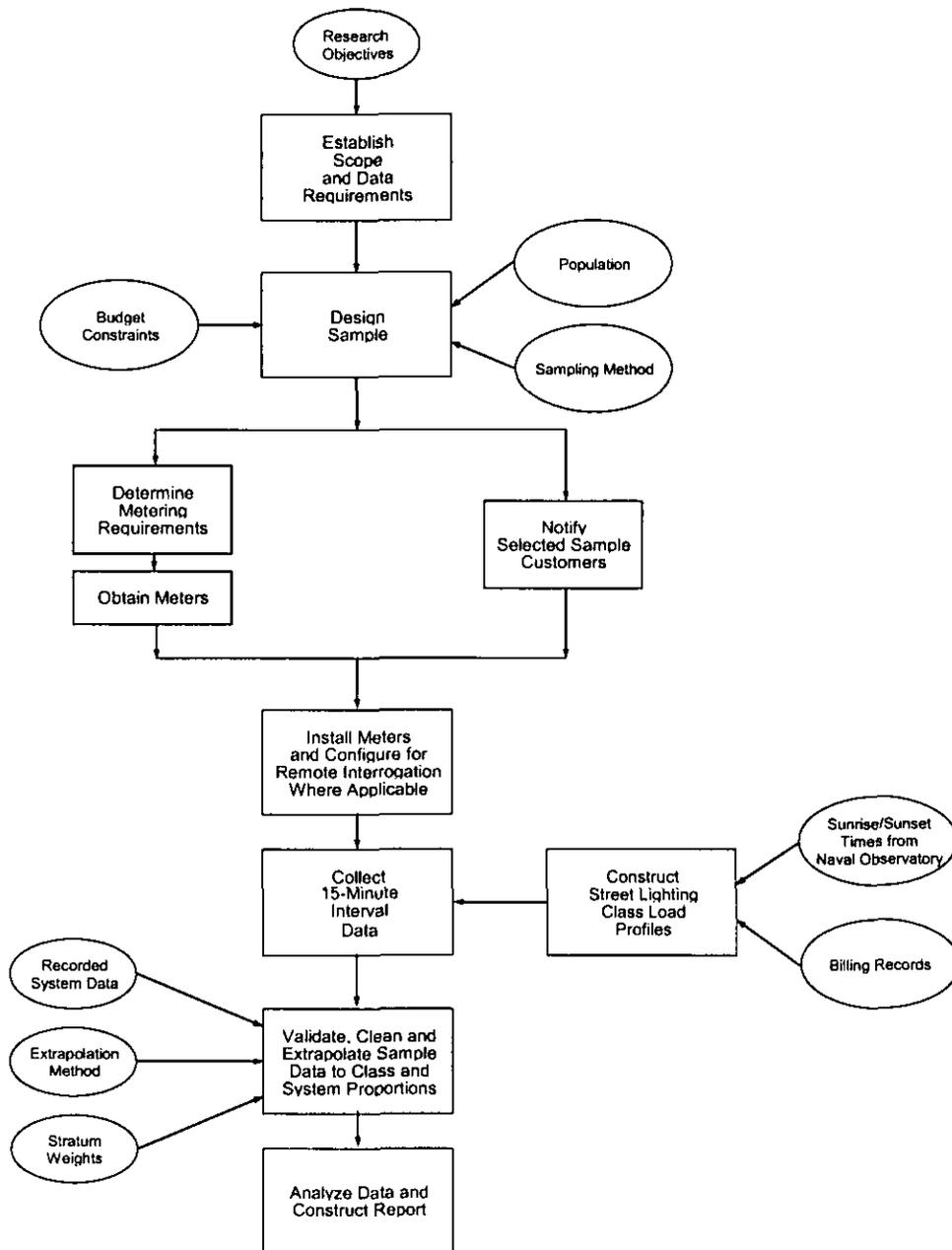
B. DATA VALIDATION

Two checks were performed to ensure that the data collected appeared reasonable. The first was a comparison of the summation of translated kilowatt-hours and elapsed time derived from the meter pulses to that in the meter registers. The second compared the derived kWh/day with that shown in MECO's customer billing system, which was collected independently over approximately the same time frame. Close communication was maintained with Meter Reading and Customer Service through regular status updates.

C. DATA EDITING

Because of its experience in filling gaps in load data, data editing was entrusted to RLW Analytics, Inc., a California consultant specializing in load research. Using their proprietary software, Visualize-IT, RLW Analytics, Inc. fit the missing kWh under typical load shapes obtained from similar days of the week in 2005, while matching the recorded monthly maximum demand, if available from the billing system.

Exhibit 3.1 THE LOAD RESEARCH PROCEDURE



D. DATA ANALYSIS AND EXTRAPOLATION

SAS programs written by RLW Analytics, Inc. and by an analyst at Hawaiian Electric Co., Inc. were used to analyze the data. After validation and edits, the 15-minute kW data for each sample account was aggregated into 60-minute integrated demand for each hour of the year and assigned a caseweight.

The caseweight is the number of customers in the population represented by each sample point. Stratum boundaries developed in the original sample design from the population in 2003 were used. The 2005 population of customers for each rate (N) were mapped into the appropriate stratum. The number of sample points available for each stratum (n) were calculated, and the caseweight was calculated as N/n.

The caseweights were applied to each individual sample point and aggregated across the rate in question. A stratified ratio estimation approach was used to estimate the population totals. The hourly stratified ratio estimator, β , is calculated by developing a ratio of the weighted sample y-variable, the hourly demand, divided by the weighted sample x-variable, the annual energy use.

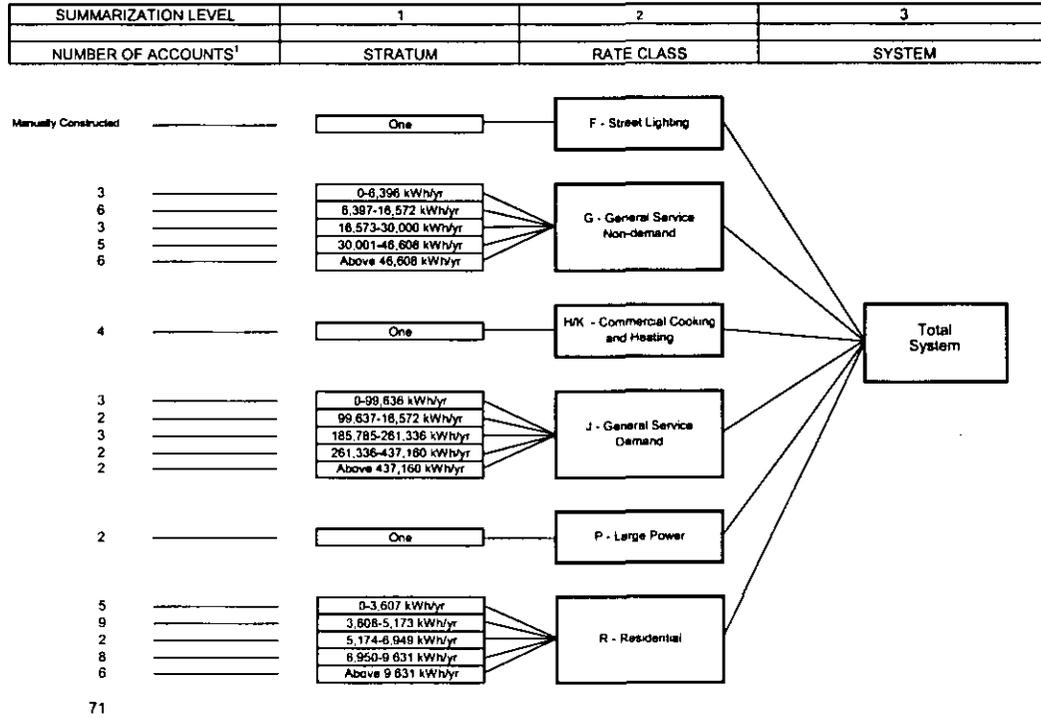
This ratio is multiplied by the known population total of the x-variable, annual billing use, to estimate the total hourly demand. The average demand was calculated by dividing the total hourly demand by the number of customers in population.

For each month, each class' data was normalized to the recorded total sales for that class. The total system load profile was obtained by adding the class load profiles at the sales level and multiplying it by the amount necessary to match the total system net-to-system generation for the month. Where hourly estimates were needed, the multiplier was adjusted to the actual recorded generation for each hour of the year.

The Lana'i hourly generation data had some gaps and inaccuracies. The data were edited by RLW Analytics, who replaced missing or obviously incorrect entries.

Exhibit 3.2 depicts the process of totalization, and shows the number of accounts in each stratum from which data was collected.

Exhibit 3.2 THE TOTALIZATION SCHEME



¹ Between 2003, when the sample accounts were selected, and 2005, when the data was collected, some accounts transferred to another rate or changed stratum. Thus, the number totalized within a stratum may differ from the number in the sampling plan.

4. TOTAL SYSTEM LOAD

This chapter analyzes the entire Lana'i system load. Load data was collected every 15 minutes at the customers' meters, validated against billing data, edited as necessary, summed by hour, extrapolated on a mean-per-unit basis to the total class, and normalized to the official monthly sales.

The system load at the sales level was derived by summing over all rate classes the data normalized to sales. Statistics at the gross generation level were calculated by adjusting the sales-normalized data for line and transformer losses. This was done by normalizing it to the recorded system hourly load profile.

Finally, the classes' contributions to system and daytime peaks, the hourly load on the system and daytime peak days, and the average weekday and weekend profiles were normalized to the recorded system generation.

Here are the Lana'i system load characteristics:

1. During 2005 the Lana'i Division of Maui Electric Company, Ltd. served an average of 1,556 customers; total sales were 27.9 GWh. Schedule R accounted for 86% of the total customer count and for 28% of the sales. Schedule P made up only 0.2% of the customer count, but contributed the largest percentage of sales, 41%. Table 4.1 summarizes the number of customers, sales, and contributions to the twelve-month system peak and daytime peak by rate. The class contributions to the system and daytime peaks are also shown in Exhibits 4.1 and 4.2, respectively.
2. The annual system peak occurred on Tuesday, December 27, 2005 at 6:35 PM. Schedule P contributed the most to the system peak (44%), followed by Schedule R (29%) and Schedule J (19%). Table 4.2 and Exhibit 4.3 show the contributions of each rate schedule to the system peak for each month. The hourly load at the time of the system peak is normalized to the instantaneous peak demand.
3. The annual daytime peak occurred on Thursday, July 28, 2005, at 10:48 AM. (On Lana'i a daytime peak is the highest demand before noon.) Schedule P contributed the most to the daytime peak (39%), followed by Schedule J (31%) and Schedule R (21%). Schedule F, Public Street Lighting Service, does not contribute to daytime peaks, since the lights are on either photoelectric sensors or timers. Table 4.3 and Exhibit 4.4 show the share of each rate schedule to the system daytime peak for each month. The hourly load at time of system daytime peak is normalized to the instantaneous peak demand.

4. Table 4.4 displays the recorded system and daytime peak demands. The system peaks occurred in the evening, except in July; the earliest evening peak was 6:15 PM in June, the latest was 7:48 PM in April. (The July system peak was at 10:48 AM.) The daytime peaks occurred between 10:30 AM in December and 11:56 AM in June. The difference between the monthly system and daytime peaks was largest in January (0.4 MW) and smallest in July (0 MW).
5. Table 4.5 and Exhibit 4.5 provide monthly reports of the sample-estimated hourly load by rate schedule on the days of the recorded system peaks. The hourly load is normalized to the actual 60-minute integrated peak demand. Table 4.6 displays the percent contribution of each rate schedule to the hourly peaks.
6. The estimated total system load is compared to the actual generated load for the days of the monthly system peaks in Table 4.7.

The average absolute error of the estimated total kWh on the system peak days is 2.0%. At the hours of the monthly instantaneous system peaks, the average absolute error of the estimated MW is 8.7%. At the hour of the annual system peak, December 27th at 6:35 PM, the estimated MW is 8.2% lower than the actual generated load.

Exhibit 4.6 displays the sample estimated 60-minute integrated demand against the recorded system load, and shows each rate schedule's load profile. The estimated system profile is normalized to the recorded sales, not to the actual system loads.

7. Table 4.8 and Exhibit 4.7 provide monthly reports of the sample-estimated hourly load by rate schedule on the days of the recorded daytime peaks. The hourly load is normalized to the actual 60-minute integrated peaks. Table 4.9 displays the percent contribution of each rate schedule to the hourly peaks.
8. In Table 4.10 the total system load is compared to the actual generated load for the days of the monthly daytime peaks.

The average absolute error of the estimated total kWh on the daytime peak days is 2.0%. At the hours of the monthly instantaneous daytime peaks, the average absolute error of the estimated MW is 8.1%. At the hour of the highest daytime peak, July 28th at 10:48 AM, the estimated MW is 11.4% lower than the actual generated load.

Exhibit 4.8 displays the sample estimate against the recorded system load, and shows each rate schedule's load profile. The estimated system profile is normalized to the recorded sales, not to the actual system loads.

9. Table 4.11 reports the time of occurrence of each class' maximum peak demand during 2005. Schedule R's annual class peak occurred during the priority-peak period (5 PM - 9 PM). Schedule G's occurred between 11 AM and noon; Schedule H's, between 3 PM and 4 PM. The commercial demand schedules both peaked on a Saturday: Schedule J, between 8 AM and 9 AM; Schedule P, between 6 PM and 7 PM. (Schedule F always attains its "peak" shortly after sunset and maintains it until shortly before sunrise.) None of the rate classes had a class peak concurrent with the recorded system peak on December 27, 2005.
10. Tables 4.12 and 4.13 report hourly load data for the average weekday and weekend at the gross generation level for the total system. The load is normalized to the actual system loads. As shown in Exhibit 4.9, the monthly weekend and weekday load profiles follow the same pattern, with the weekday load about 100 kW higher than the weekend load between 5 AM and 10 PM.
11. The load factor measures how efficiently the system's generating capacity is being used. It is the ratio of the total energy actually consumed during a given period to the energy which could have been consumed had the peak demand been sustained for the entire duration of the period. The higher the load factor, the flatter the load profile of the class or system. Table 4.14 shows Schedule H had the highest load factor, 73%, followed by Schedule P, 72%. The annual load factor based on the recorded total kWh and instantaneous system peak kW was 67%.
12. Table 4.1 showed that Schedule R had the highest consumption of the total system. Table 4.15 shows that Schedule P accounted for the largest proportion, 39%, of energy use during the priority-peak hours. Schedule R accounted for 34%; Schedule J accounted for 18%. Schedule P accounted for nearly half (45%) of energy use off-peak.

Table 4.16 shows that, across all rate schedules, 13% of consumption occurred during the priority peak hours, 52% occurred during the on-peak hours and 35% occurred during the off-peak hours.

Time-of-Use Period Definitions:

Priority Peak:	5 PM - 9 PM	Monday through Friday
On-peak:	7 AM - 5 PM	Monday through Friday
	7 AM - 9 PM	Saturday and Sunday
Off-peak:	9 PM - 7 AM	Daily

Table 4.1
SUMMARY STATISTICS

Customers, Sales and Contributions to Peaks, by Rate Class

Rate Class	Number of Customers ¹		Total Sales ¹		Contribution to the System Peak ²		Contribution to the Day Peak ³	
	Average No.	Percent	kWH	Percent	kW	Percent	kW	Percent
F	3	0.2	113,564	0.4	23	0.4	0	0.0
G	171	11.0	1,873,651	6.7	316	6.1	348	7.3
H	4	0.3	540,034	1.9	84	1.6	93	2.0
J	33	2.1	5,973,083	21.4	987	19.2	1,479	30.9
P	3	0.2	11,576,866	41.4	2,249	43.7	1,867	39.0
R	1,342	86.2	7,864,817	28.1	1,491	28.9	992	20.8
Total System	1,556	100.0	27,942,015	100.0	5,150	100.0	4,780	100.0

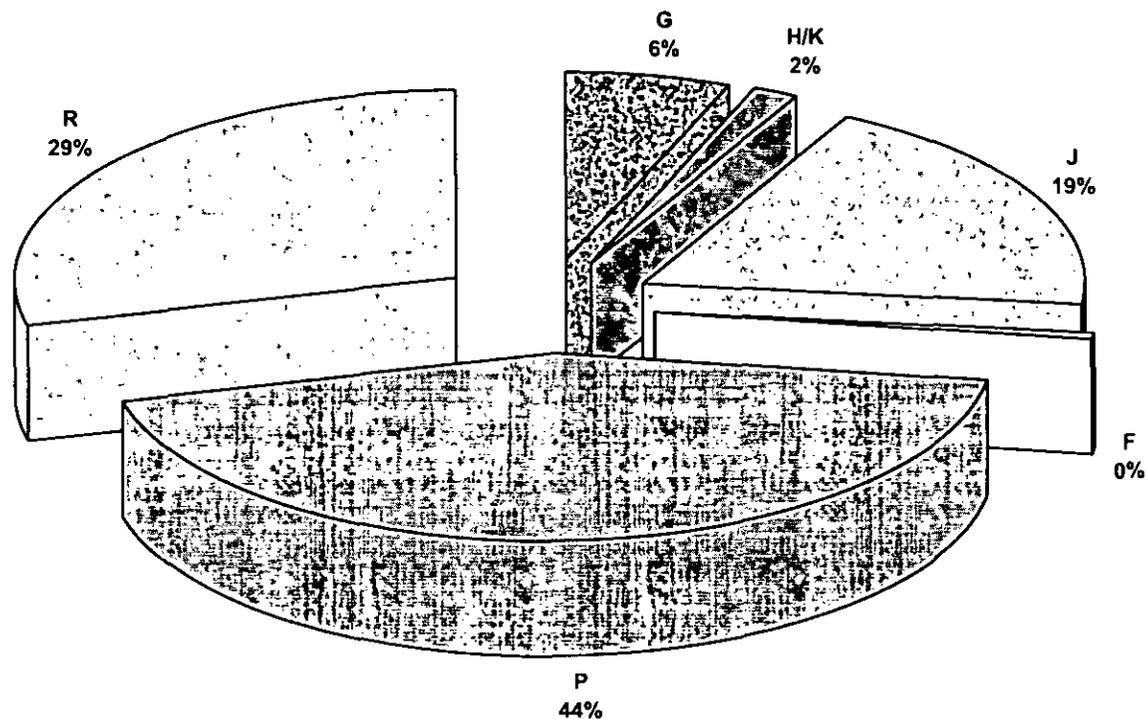
¹ Recorded data from "LANAI KWH SALES & REVENUE REPORT - INCLUDING UNBILLED REVENUE BY RATE SCHEDULE" (Maui Electric Company, Ltd. Accounting Department).

² Contribution to the system load during the hour of the instantaneous 2005 system peak of 5.150 MW on December 27, 2005 @ 18:35.

³ Contribution to the system load during the hour of the instantaneous 2005 daytime peak of 4.780 MW on July 28, 2005 @ 10:48.

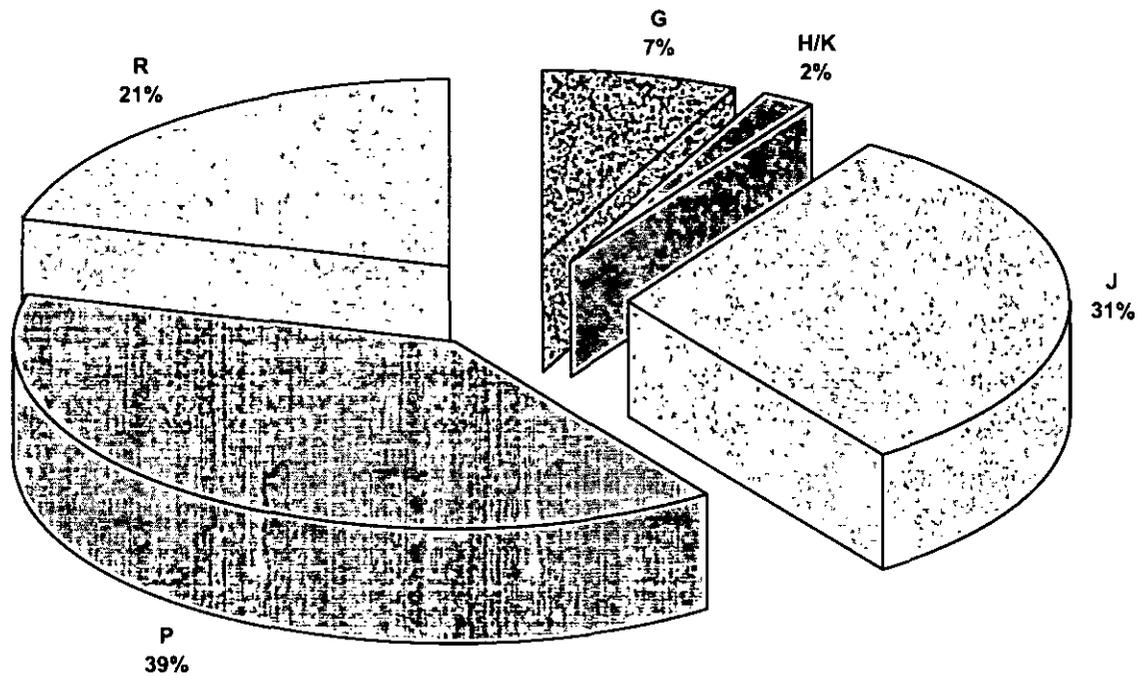
Contributions to peaks are normalized to the hourly system generation.

Exhibit 4.1
CLASS CONTRIBUTIONS TO THE SYSTEM PEAK



The instantaneous system peak of 5.150 MW occurred on 12/27/05 @ 18:35.

Exhibit 4.2
CLASS CONTRIBUTIONS TO THE DAYTIME PEAK



The instantaneous system daytime peak of 4.780 MW occurred on 7/28/05 @ 10:48.

Table 4.2

NORMALIZED CLASS CONTRIBUTIONS TO THE SYSTEM PEAKS
60-Minute Integrated kW Demand at the Gross Generation Level

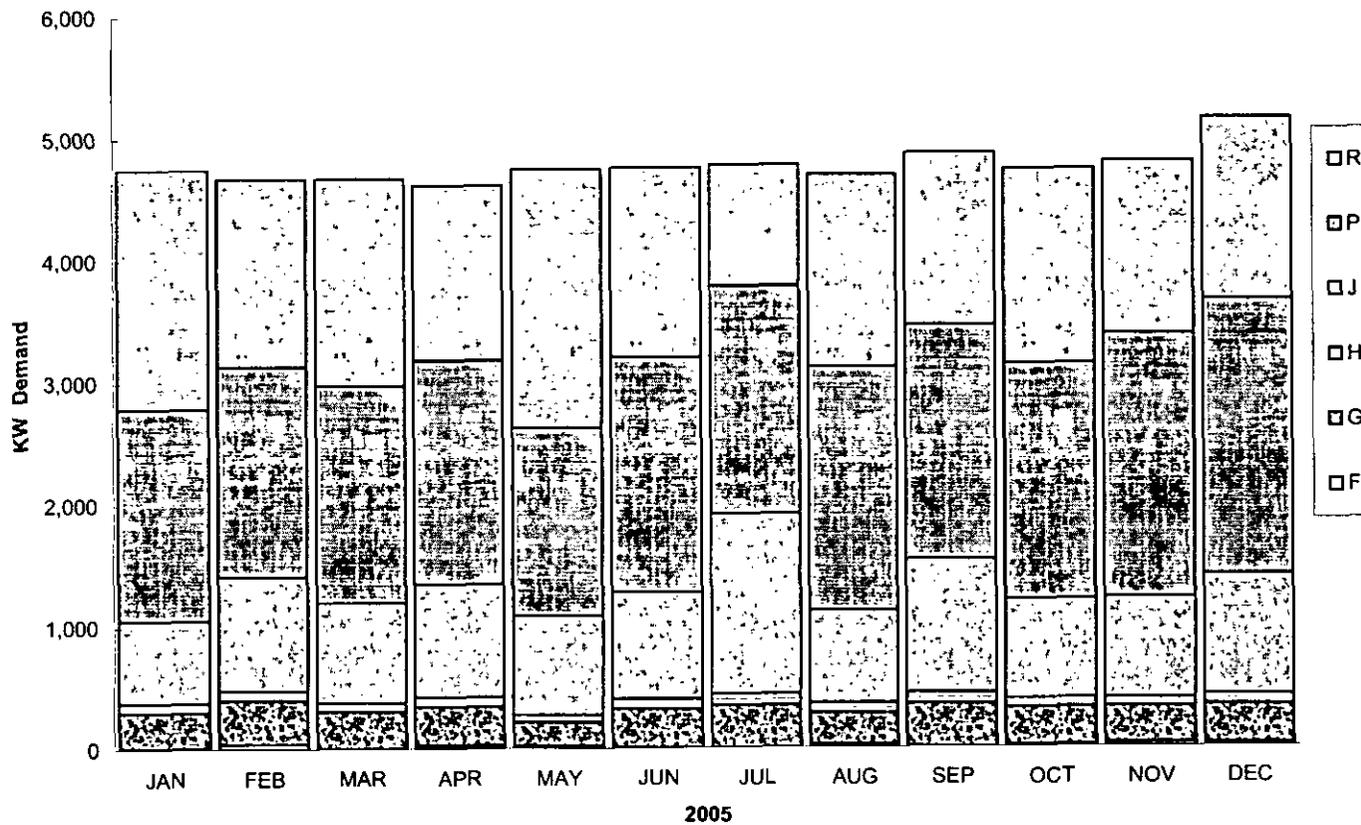
Month	F	G	H	J	P	R	Total System ¹
JAN	12	292	79	673	1,734	1,961	4,750
FEB	43	359	78	939	1,719	1,538	4,675
MAR	0	303	76	820	1,780	1,695	4,675
APR	29	318	79	928	1,829	1,437	4,620
MAY	23	193	62	812	1,541	2,119	4,750
JUN	0	318	83	876	1,926	1,557	4,760
JUL	0	348	93	1,479	1,867	992	4,780
AUG	28	256	83	760	1,996	1,578	4,700
SEP	4	352	94	1,092	1,920	1,413	4,875
OCT	16	311	74	811	1,934	1,595	4,740
NOV	31	298	72	826	2,159	1,414	4,800
DEC	23	316	84	987	2,249	1,491	5,150

¹ The instantaneous system peak of 5.150 MW occurred on December 27, 2005 @ 18:35.

Month	F	G	H	J	P	R	Total System
JAN	0.2%	6.1%	1.7%	14.2%	36.5%	41.3%	100.0%
FEB	0.9%	7.7%	1.7%	20.1%	36.8%	32.9%	100.0%
MAR	0.0%	6.5%	1.6%	17.5%	38.1%	36.3%	100.0%
APR	0.6%	6.9%	1.7%	20.1%	39.6%	31.1%	100.0%
MAY	0.5%	4.1%	1.3%	17.1%	32.4%	44.6%	100.0%
JUN	0.0%	6.7%	1.8%	18.4%	40.5%	32.7%	100.0%
JUL	0.0%	7.3%	2.0%	30.9%	39.0%	20.8%	100.0%
AUG	0.6%	5.4%	1.8%	16.2%	42.5%	33.6%	100.0%
SEP	0.1%	7.2%	1.9%	22.4%	39.4%	29.0%	100.0%
OCT	0.3%	6.6%	1.6%	17.1%	40.8%	33.6%	100.0%
NOV	0.6%	6.2%	1.5%	17.2%	45.0%	29.5%	100.0%
DEC	0.4%	6.1%	1.6%	19.2%	43.7%	28.9%	100.0%

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Exhibit 4.3
 CLASS CONTRIBUTIONS TO THE MONTHLY SYSTEM PEAKS



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Table 4.3
NORMALIZED CLASS CONTRIBUTIONS TO THE DAYTIME PEAKS
 60-Minute Integrated kW Demand at the Gross Generation Level

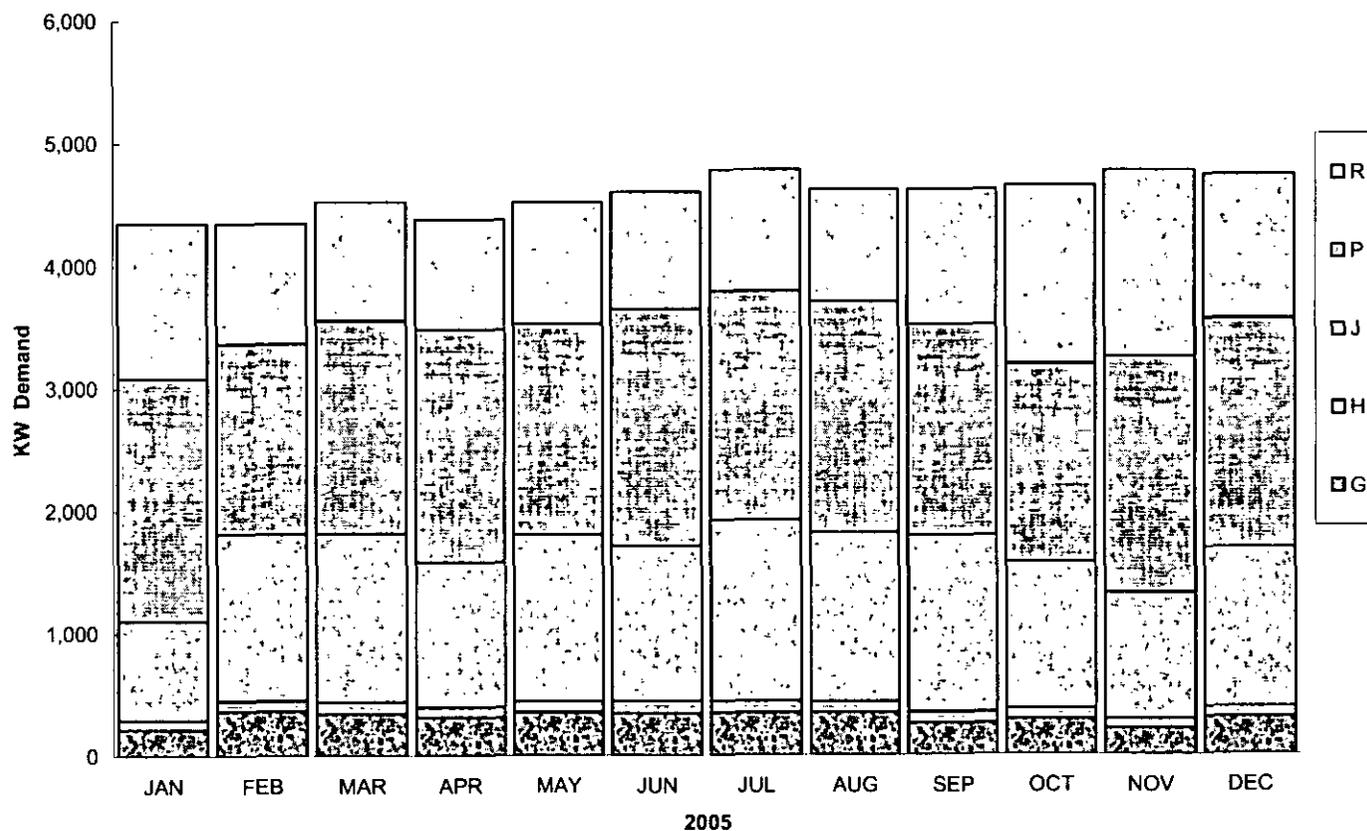
Month	F	G	H	J	P	R	Total System ¹
JAN	0	16,276	3,769	35,011	58,017	65,727	178,800
FEB	0	21,652	4,676	41,507	56,579	51,787	176,200
MAR	0	20,765	4,396	41,739	58,678	58,621	184,200
APR	0	19,876	4,690	42,810	59,750	48,774	175,900
MAY	0	22,683	5,067	45,552	64,383	47,915	185,600
JUN	0	20,781	5,026	44,786	63,149	54,258	188,000
JUL	0	21,887	5,171	46,784	66,003	55,955	195,800
AUG	0	20,416	4,943	43,201	62,709	68,931	200,200
SEP	0	20,622	5,304	47,271	66,463	53,641	193,300
OCT	0	21,971	5,342	44,829	62,073	55,685	189,900
NOV	0	20,482	4,356	46,112	57,399	59,251	187,600
DEC	0	18,135	4,510	38,514	60,966	59,475	181,600

¹ The instantaneous daytime peak of 200.2 MW occurred on August 9, 2005 @ 14:14.

Month	F	G	H	J	P	R	Total System
JAN	0%	9%	2%	20%	32%	37%	100%
FEB	0%	12%	3%	24%	32%	29%	100%
MAR	0%	11%	2%	23%	32%	32%	100%
APR	0%	11%	3%	24%	34%	28%	100%
MAY	0%	12%	3%	25%	35%	26%	100%
JUN	0%	11%	3%	24%	34%	29%	100%
JUL	0%	11%	3%	24%	34%	29%	100%
AUG	0%	10%	2%	22%	31%	34%	100%
SEP	0%	11%	3%	24%	34%	28%	100%
OCT	0%	12%	3%	24%	33%	29%	100%
NOV	0%	11%	2%	25%	31%	32%	100%
DEC	0%	10%	2%	21%	34%	33%	100%

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Exhibit 4.4
 CLASS CONTRIBUTIONS TO THE MONTHLY DAYTIME PEAKS



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Table 4.4
 RECORDED SYSTEM PEAK DEMANDS

Month	System Peak (MW)		Daytime Peak (MW)	
	Instantaneous	60-Min Integrated	Instantaneous	60-Min Integrated
Jan	4.750	4.400	4.350	4.100
Feb	4.675	4.300	4.350	4.200
Mar	4.675	4.300	4.525	4.200
Apr	4.620	4.300	4.380	4.000
May	4.750	4.300	4.520	4.300
Jun	4.760	4.500	4.600	4.500
Jul	4.780	4.400	4.780	4.400
Aug	4.700	4.500	4.620	4.000
Sep	4.875	4.800	4.620	4.400
Oct	4.740	4.500	4.650	4.500
Nov	4.800	4.200	4.770	4.600
Dec	5.150	4.700	4.730	4.000
Annual	5.150	4.800	4.780	4.600

Sources: Integrated Hourly Loads from MECO Production Department.

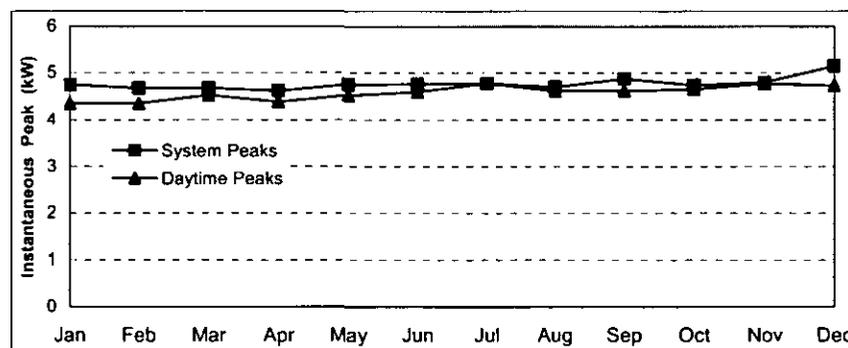


Table 4.5 a
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 January 2005

HOUR	F	G	H	J	P	R	System Total
1	20	157	52	312	1,121	837	2,500
2	23	176	58	343	1,219	581	2,400
3	22	170	61	331	1,195	521	2,300
4	23	171	61	378	1,202	566	2,400
5	26	210	67	554	1,348	595	2,800
6	24	202	58	633	1,318	766	3,000
7	17	219	63	713	1,394	894	3,300
8	0	225	68	759	1,303	945	3,300
9	0	230	67	788	1,435	980	3,500
10	0	249	73	854	1,474	1,050	3,700
11	0	280	84	939	1,595	1,002	3,900
12	0	265	80	908	1,563	1,084	3,900
13	0	277	77	981	1,649	1,014	4,000
14	0	287	78	941	1,631	963	3,900
15	0	294	83	955	1,623	945	3,900
16	0	264	72	730	1,415	1,419	3,900
17	0	285	77	758	1,536	1,343	4,000
18	0	341	93	886	1,838	1,243	4,400
19	11	270	73	623	1,606	1,816	4,400
20	19	211	55	463	1,294	2,058	4,100
21	21	258	55	405	1,389	1,573	3,700
22	20	181	53	354	1,282	1,511	3,400
23	20	159	56	341	1,241	983	2,800
24	22	169	59	352	1,243	956	2,800
TOTAL	268	5,551	1,621	15,303	33,912	25,645	82,300
MIN	0	157	52	312	1,121	521	2,300
MAX	26	341	93	981	1,838	2,058	4,400
MEAN	11	231	68	638	1,413	1,069	3,429

The instantaneous system peak of 4.750 MW occurred on January 17, 2005 @ 18:28.

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Table 4.5 b
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 February 2005

HOUR	F	G	H	J	P	R	System Total
1	29	132	44	458	875	862	2,400
2	26	115	41	414	754	1,049	2,400
3	36	160	54	567	1,029	555	2,400
4	36	167	55	543	1,062	536	2,400
5	41	183	66	557	1,152	601	2,600
6	44	203	62	667	1,281	744	3,000
7	21	247	59	779	1,244	1,050	3,400
8	0	286	68	877	1,259	1,009	3,500
9	0	283	67	1,046	1,322	882	3,600
10	0	305	70	1,182	1,268	1,075	3,900
11	0	327	85	1,287	1,481	921	4,100
12	0	353	84	1,315	1,501	947	4,200
13	0	367	78	1,331	1,491	833	4,100
14	0	347	77	1,249	1,396	731	3,800
15	0	336	68	1,097	1,483	816	3,800
16	0	364	74	1,077	1,503	881	3,900
17	0	339	83	1,092	1,455	1,331	4,300
18	0	349	78	942	1,482	1,350	4,200
19	7	387	89	903	1,812	1,402	4,600
20	39	331	71	864	1,581	1,414	4,300
21	38	262	66	795	1,527	1,213	3,900
22	33	219	54	637	1,262	1,295	3,500
23	30	166	51	554	1,108	990	2,900
24	36	202	57	630	1,207	768	2,900
TOTAL	416	6,429	1,601	20,863	31,536	23,255	84,100
MIN	0	115	41	414	754	536	2,400
MAX	44	387	89	1,331	1,812	1,414	4,600
MEAN	17	268	67	869	1,314	969	3,504

The instantaneous system peak of 4.675 MW occurred on February 24, 2005 @ 19:12.

Table 4.5 c
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 March 2005

HOUR	F	G	H	J	P	R	System Total
1	23	148	43	337	921	929	2,400
2	30	179	64	446	1,133	549	2,400
3	30	180	62	452	1,121	554	2,400
4	30	189	58	442	1,151	529	2,400
5	33	217	67	481	1,219	583	2,600
6	34	209	66	565	1,249	777	2,900
7	5	238	61	740	1,251	904	3,200
8	0	221	67	787	1,257	868	3,200
9	0	239	66	887	1,345	962	3,500
10	0	297	77	1,028	1,486	1,013	3,900
11	0	297	75	980	1,516	932	3,800
12	0	273	65	874	1,420	868	3,500
13	0	282	63	877	1,373	906	3,500
14	0	267	65	896	1,403	769	3,400
15	0	313	72	1,057	1,530	728	3,700
16	0	292	74	998	1,489	847	3,700
17	0	274	67	967	1,489	904	3,700
18	0	266	68	876	1,507	1,283	4,000
19	0	279	70	755	1,637	1,559	4,300
20	25	247	59	720	1,413	1,436	3,900
21	22	199	50	623	1,176	1,531	3,600
22	27	222	57	719	1,379	997	3,400
23	26	179	53	529	1,251	862	2,900
24	25	166	51	430	1,088	940	2,700
TOTAL	311	5,672	1,518	17,464	31,805	22,230	79,000
MIN	0	148	43	337	921	529	2,400
MAX	34	313	77	1,057	1,637	1,559	4,300
MEAN	13	236	63	728	1,325	926	3,292

The instantaneous system peak of 4.675 MW occurred on March 29, 2005 @ 18:34.

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Table 4.5 d
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 April 2005

HOUR	F	G	H	J	P	R	System Total
1	27	171	45	413	1,062	683	2,400
2	30	169	54	427	1,172	548	2,400
3	30	164	55	431	1,135	583	2,400
4	32	172	58	468	1,212	558	2,500
5	33	180	60	452	1,217	658	2,600
6	27	234	67	547	1,442	883	3,200
7	0	218	58	694	1,418	1,212	3,600
8	0	211	67	973	1,355	1,094	3,700
9	0	235	61	1,089	1,324	1,091	3,800
10	0	256	65	1,072	1,367	1,039	3,800
11	0	268	71	1,104	1,449	908	3,800
12	0	251	66	1,007	1,344	932	3,600
13	0	280	69	959	1,495	796	3,600
14	0	304	75	1,039	1,619	862	3,900
15	0	295	80	1,050	1,537	838	3,800
16	0	296	85	1,072	1,655	892	4,000
17	0	288	76	1,010	1,580	1,146	4,100
18	0	300	76	936	1,646	1,343	4,300
19	0	341	82	816	1,761	1,500	4,500
20	27	296	73	864	1,703	1,338	4,300
21	30	244	64	782	1,505	1,174	3,800
22	27	189	51	621	1,293	1,319	3,500
23	27	183	53	505	1,307	825	2,900
24	31	191	58	496	1,361	664	2,800
TOTAL	320	5,737	1,569	18,827	33,962	22,886	83,300
MIN	0	164	45	413	1,062	548	2,400
MAX	33	341	85	1,104	1,761	1,500	4,500
MEAN	13	239	65	784	1,415	954	3,471

The instantaneous system peak of 4.620 MW occurred on April 7, 2005 @ 19:48.

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Table 4.5 e
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 May 2005

HOUR	F	G	H	J	P	R	System Total
1	28	154	41	339	934	904	2,400
2	28	132	43	338	943	915	2,400
3	35	150	53	401	1,070	592	2,300
4	36	161	55	418	1,128	402	2,200
5	40	171	60	468	1,180	481	2,400
6	18	180	64	531	1,304	603	2,700
7	0	192	69	763	1,465	811	3,300
8	0	175	72	948	1,399	806	3,400
9	0	178	68	971	1,406	977	3,600
10	0	164	65	913	1,405	952	3,500
11	0	181	78	967	1,544	1,131	3,900
12	0	185	73	957	1,538	946	3,700
13	0	184	69	942	1,435	1,171	3,800
14	0	200	76	981	1,499	944	3,700
15	0	200	74	1,028	1,596	1,001	3,900
16	0	210	74	998	1,615	1,003	3,900
17	0	193	71	960	1,627	1,048	3,900
18	0	186	64	892	1,639	1,218	4,000
19	0	190	66	781	1,715	1,648	4,400
20	21	175	56	735	1,395	1,918	4,300
21	36	206	58	785	1,544	1,171	3,800
22	35	190	52	670	1,389	1,064	3,400
23	33	162	49	600	1,253	703	2,800
24	28	150	42	475	1,001	903	2,600
TOTAL	338	4,270	1,494	17,863	33,024	23,312	80,300
MIN	0	132	41	338	934	402	2,200
MAX	40	210	78	1,028	1,715	1,918	4,400
MEAN	14	178	62	744	1,376	971	3,346

The instantaneous system peak of 4.750 MW occurred on May 30, 2005 @ 19:31.

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Table 4.5 f
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 June 2005

HOUR	F	G	H	J	P	R	System Total
1	32	250	63	462	1,169	625	2,600
2	32	253	65	444	1,021	585	2,400
3	33	243	64	452	1,021	487	2,300
4	34	209	63	464	1,036	594	2,400
5	37	232	69	526	1,135	700	2,700
6	16	292	84	645	1,370	792	3,200
7	0	301	71	752	1,307	1,169	3,600
8	0	266	73	788	1,611	861	3,600
9	0	298	77	860	1,762	803	3,800
10	0	339	85	912	1,782	982	4,100
11	0	345	88	902	1,765	999	4,100
12	0	324	85	868	1,723	1,101	4,100
13	0	303	84	882	1,720	1,012	4,000
14	0	296	83	915	1,619	1,187	4,100
15	0	290	80	925	1,633	1,172	4,100
16	0	307	90	973	1,773	1,057	4,200
17	0	329	91	979	1,802	1,098	4,300
18	0	299	87	924	1,838	1,452	4,600
19	0	301	79	828	1,821	1,472	4,500
20	13	296	72	803	1,632	1,684	4,500
21	28	282	69	699	1,525	1,597	4,200
22	30	259	63	727	1,587	1,134	3,800
23	27	187	54	589	1,314	930	3,100
24	27	199	56	510	1,267	641	2,700
TOTAL	310	6,702	1,795	17,828	36,232	24,133	87,000
MIN	0	187	54	444	1,021	487	2,300
MAX	37	345	91	979	1,838	1,684	4,600
MEAN	13	279	75	743	1,510	1,006	3,625

The instantaneous system peak of 4.760 MW occurred on June 30, 2005 @ 18:15.

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Table 4.5 g
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 July 2005

HOUR	F	G	H	J	P	R	System Total
1	31	205	51	443	1,223	847	2,800
2	32	217	60	460	1,287	643	2,700
3	32	208	58	457	1,235	610	2,600
4	34	189	61	478	1,300	637	2,700
5	37	199	71	526	1,385	584	2,800
6	20	217	70	595	1,525	773	3,200
7	0	245	65	722	1,447	1,221	3,700
8	0	245	70	992	1,396	997	3,700
9	0	272	75	1,146	1,475	932	3,900
10	0	334	86	1,375	1,753	953	4,500
11	0	321	86	1,362	1,718	913	4,400
12	0	302	81	1,310	1,776	1,031	4,500
13	0	274	71	1,200	1,682	1,173	4,400
14	0	315	82	1,246	1,741	816	4,200
15	0	301	74	1,048	1,630	1,048	4,100
16	0	289	73	958	1,546	1,335	4,200
17	0	298	77	1,008	1,567	1,350	4,300
18	0	266	75	926	1,584	1,649	4,500
19	0	273	77	824	1,725	1,701	4,600
20	14	277	77	721	1,781	1,529	4,400
21	31	244	68	587	1,603	1,468	4,000
22	32	249	62	585	1,597	1,276	3,800
23	29	195	56	500	1,393	1,028	3,200
24	33	219	62	520	1,438	828	3,100
TOTAL	325	6,154	1,686	19,988	36,806	25,342	90,300
MIN	0	189	51	443	1,223	584	2,600
MAX	37	334	86	1,375	1,781	1,701	4,600
MEAN	14	256	70	833	1,534	1,056	3,763

The instantaneous system peak of 4.780 MW occurred on July 28, 2005 @ 10:48.

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Table 4.5 h
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 August 2005

HOUR	F	G	H	J	P	R	System Total
1	32	181	52	432	1,199	904	2,800
2	35	182	61	457	1,276	790	2,800
3	35	172	62	450	1,294	786	2,800
4	38	189	64	501	1,401	606	2,800
5	41	194	73	535	1,413	644	2,900
6	29	202	70	583	1,505	711	3,100
7	0	193	65	729	1,481	1,033	3,500
8	0	200	72	878	1,437	1,013	3,600
9	0	231	76	991	1,564	1,238	4,100
10	0	244	72	923	1,509	1,452	4,200
11	0	266	79	972	1,534	1,548	4,400
12	0	269	75	997	1,518	1,141	4,000
13	0	302	74	1,014	1,705	1,005	4,100
14	0	280	78	1,016	1,621	1,005	4,000
15	0	280	78	1,071	1,672	999	4,100
16	0	257	77	989	1,618	1,259	4,200
17	0	279	85	1,078	1,752	1,006	4,200
18	0	260	85	1,022	1,824	1,210	4,400
19	0	217	73	802	1,741	1,568	4,400
20	27	245	79	728	1,911	1,511	4,500
21	40	265	76	716	1,884	1,319	4,300
22	34	229	63	715	1,580	1,179	3,800
23	30	202	54	650	1,329	836	3,100
24	34	214	62	667	1,380	643	3,000
TOTAL	375	5,554	1,702	18,915	37,150	25,403	89,100
MIN	0	172	52	432	1,199	606	2,800
MAX	41	302	85	1,078	1,911	1,568	4,500
MEAN	16	231	71	788	1,548	1,058	3,713

The instantaneous system peak of 4.700 MW occurred on August 8, 2005 @ 19:45.

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Table 4.5 i
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 September 2005

HOUR	F	G	H	J	P	R	System Total
1	28	201	52	444	1,188	486	2,400
2	30	201	60	486	1,184	439	2,400
3	30	179	61	470	1,186	474	2,400
4	30	180	58	465	1,158	509	2,400
5	31	188	61	487	1,202	532	2,500
6	28	201	67	558	1,332	913	3,100
7	0	237	68	907	1,550	838	3,600
8	0	217	67	1,066	1,301	850	3,500
9	0	231	70	1,204	1,331	864	3,700
10	0	283	74	1,225	1,415	1,203	4,200
11	0	305	85	1,308	1,523	1,080	4,300
12	0	330	90	1,367	1,574	939	4,300
13	0	293	72	1,219	1,397	1,120	4,100
14	0	299	79	1,215	1,309	998	3,900
15	0	323	84	1,251	1,477	965	4,100
16	0	319	88	1,147	1,406	1,140	4,100
17	0	315	88	1,186	1,622	989	4,200
18	0	314	94	1,190	1,732	971	4,300
19	4	346	92	1,075	1,891	1,391	4,800
20	33	292	78	869	1,669	1,458	4,400
21	32	286	73	838	1,577	1,294	4,100
22	33	266	73	848	1,580	1,099	3,900
23	30	201	63	769	1,383	754	3,200
24	33	237	69	689	1,465	607	3,100
TOTAL	341	6,243	1,766	22,285	34,450	21,915	87,000
MIN	0	179	52	444	1,158	439	2,400
MAX	33	346	94	1,367	1,891	1,458	4,800
MEAN	14	260	74	929	1,435	913	3,625

The instantaneous system peak of 4.875 MW occurred on September 8, 2005 @ 18:51.

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Table 4.5 j
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
October 2005

HOUR	F	G	H	J	P	R	System Total
1	27	221	57	588	1,398	510	2,800
2	25	214	56	565	1,265	474	2,600
3	25	197	56	495	1,211	616	2,600
4	26	181	60	489	1,277	567	2,600
5	27	190	64	493	1,370	655	2,800
6	31	230	72	615	1,658	794	3,400
7	0	231	68	708	1,706	1,087	3,800
8	0	197	66	964	1,362	1,111	3,700
9	0	186	63	1,080	1,421	950	3,700
10	0	232	63	1,050	1,349	1,106	3,800
11	0	326	79	1,167	1,667	862	4,100
12	0	316	78	1,053	1,592	860	3,900
13	0	282	68	983	1,512	1,055	3,900
14	0	306	82	1,123	1,673	916	4,100
15	0	288	75	979	1,657	1,100	4,100
16	0	298	86	1,018	1,809	989	4,200
17	0	258	84	1,024	1,791	1,243	4,400
18	0	264	77	961	1,717	1,480	4,500
19	15	295	71	770	1,836	1,514	4,500
20	23	220	60	510	1,520	1,767	4,100
21	26	210	67	538	1,645	1,413	3,900
22	25	225	60	479	1,539	1,172	3,500
23	24	208	55	575	1,405	832	3,100
24	26	221	61	489	1,414	689	2,900
TOTAL	300	5,794	1,628	18,717	36,797	23,763	87,000
MIN	0	181	55	479	1,211	474	2,600
MAX	31	326	86	1,167	1,836	1,767	4,500
MEAN	12	241	68	780	1,533	990	3,625

The instantaneous system peak of 4.740 MW occurred on October 25, 2005 @ 18:50.

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Table 4.5 k
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 November 2005

HOUR	F	G	H	J	P	R	System Total
1	30	181	55	426	1,205	704	2,600
2	31	186	60	441	1,242	540	2,500
3	30	185	61	413	1,207	603	2,500
4	31	186	63	432	1,217	571	2,500
5	32	183	64	452	1,252	717	2,700
6	33	201	62	604	1,417	682	3,000
7	8	219	68	865	1,658	781	3,600
8	0	204	68	898	1,591	1,039	3,800
9	0	174	62	787	1,428	1,549	4,000
10	0	196	71	934	1,727	1,573	4,500
11	0	206	73	996	1,859	1,466	4,600
12	0	200	74	913	1,708	1,205	4,100
13	0	199	66	947	1,658	1,431	4,300
14	0	200	64	886	1,638	1,512	4,300
15	0	209	68	927	1,731	1,465	4,400
16	0	224	71	956	1,885	1,364	4,500
17	0	214	68	920	1,806	1,493	4,500
18	0	245	61	880	1,763	1,651	4,600
19	27	261	63	723	1,889	1,237	4,200
20	34	222	68	628	1,833	1,216	4,000
21	31	192	59	546	1,624	1,348	3,800
22	29	177	54	465	1,444	1,432	3,600
23	29	174	55	444	1,323	1,075	3,100
24	33	190	58	463	1,381	976	3,100
TOTAL	377	4,827	1,535	16,945	37,487	27,629	88,800
MIN	0	174	54	413	1,205	540	2,500
MAX	34	261	74	996	1,889	1,651	4,600
MEAN	16	201	64	706	1,562	1,151	3,700

The instantaneous system peak of 4.800 MW occurred on November 24, 2005 @ 18:40.

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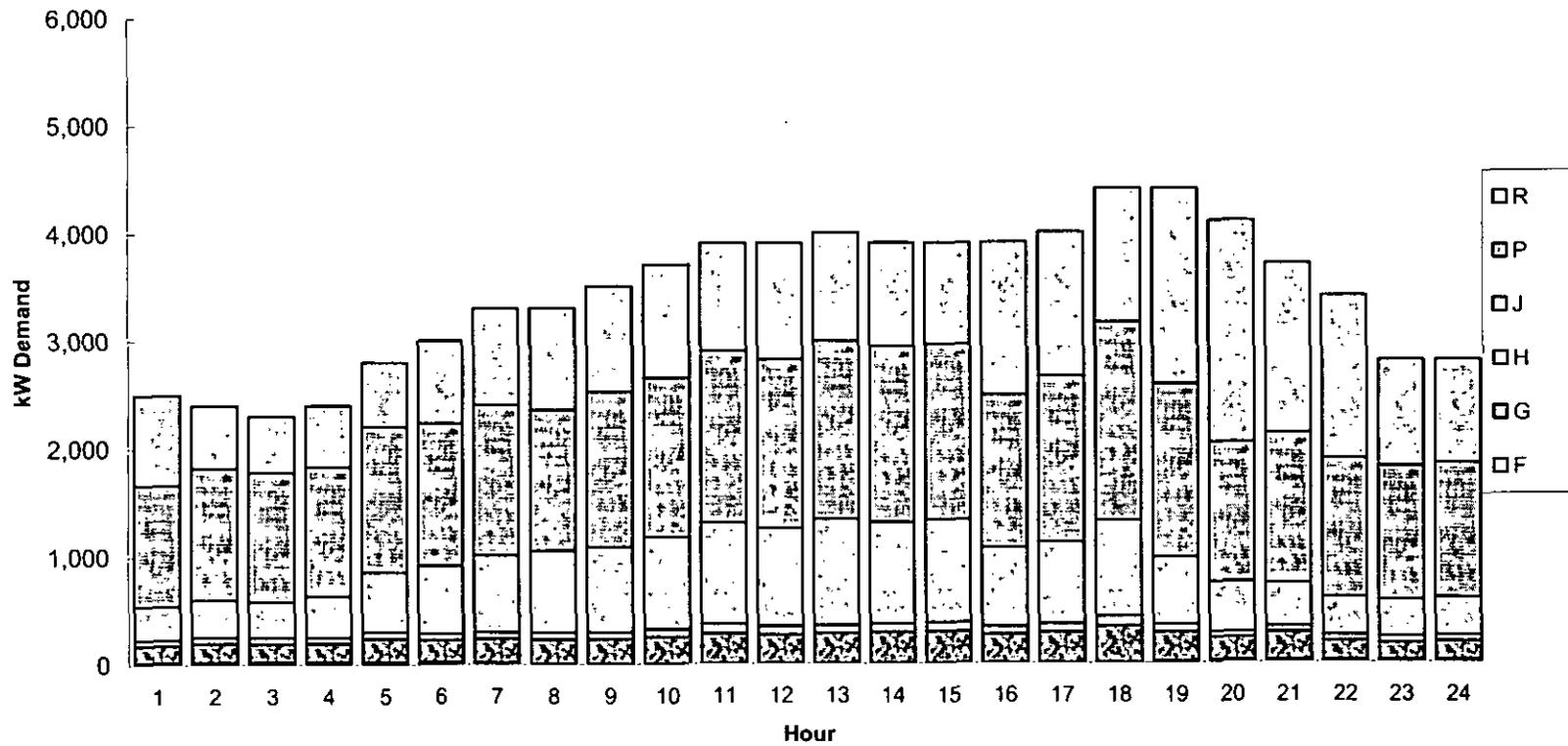
Table 4.5 I
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 December 2005

HOUR	F	G	H	J	P	R	System Total
1	25	180	55	455	1,345	540	2,600
2	25	193	55	459	1,321	546	2,600
3	24	185	55	435	1,265	535	2,500
4	25	184	56	454	1,319	562	2,600
5	26	211	56	559	1,363	485	2,700
6	27	243	60	651	1,472	648	3,100
7	13	220	58	731	1,486	792	3,300
8	0	244	64	794	1,552	947	3,600
9	0	223	66	871	1,620	920	3,700
10	0	259	72	946	1,731	1,092	4,100
11	0	286	71	990	1,686	967	4,000
12	0	275	77	1,008	1,679	961	4,000
13	0	269	74	967	1,652	1,137	4,100
14	0	283	68	998	1,730	922	4,000
15	0	295	75	1,044	1,812	974	4,200
16	0	284	76	1,043	1,816	1,081	4,300
17	0	254	74	1,077	1,920	1,076	4,400
18	0	289	76	1,084	1,997	1,454	4,900
19	21	288	77	901	2,053	1,360	4,700
20	25	253	62	761	1,826	1,274	4,200
21	26	238	64	739	1,862	1,171	4,100
22	24	221	56	576	1,643	980	3,500
23	24	194	54	524	1,531	873	3,200
24	23	208	54	450	1,349	915	3,000
TOTAL	308	5,779	1,554	18,518	39,028	22,213	87,400
MIN	0	180	54	435	1,265	485	2,500
MAX	27	295	77	1,084	2,053	1,454	4,900
MEAN	13	241	65	772	1,626	926	3,642

The instantaneous system peak of 5.150 MW occurred on December 27, 2005 @ 18:35.

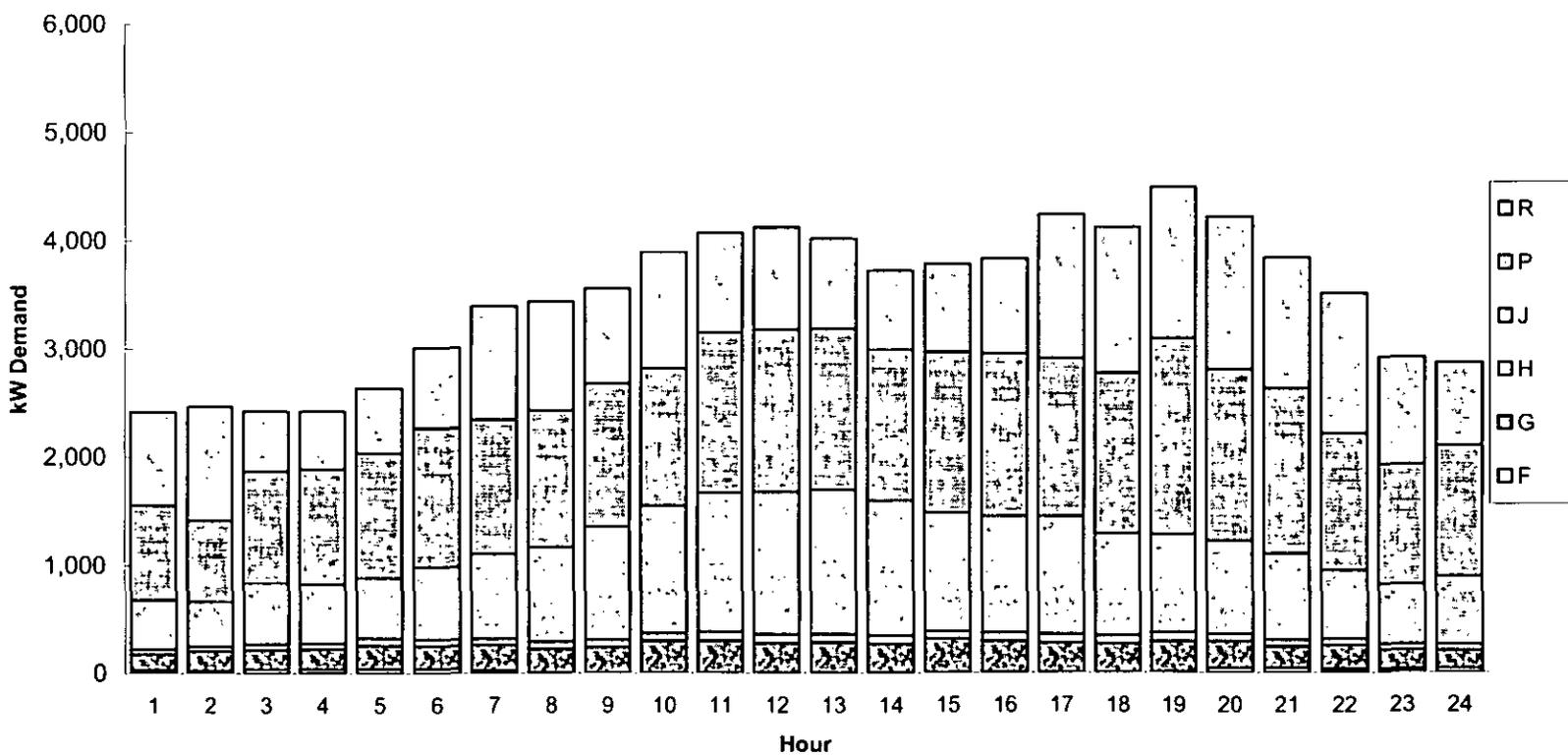
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Exhibit 4.5 a
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 January 2005



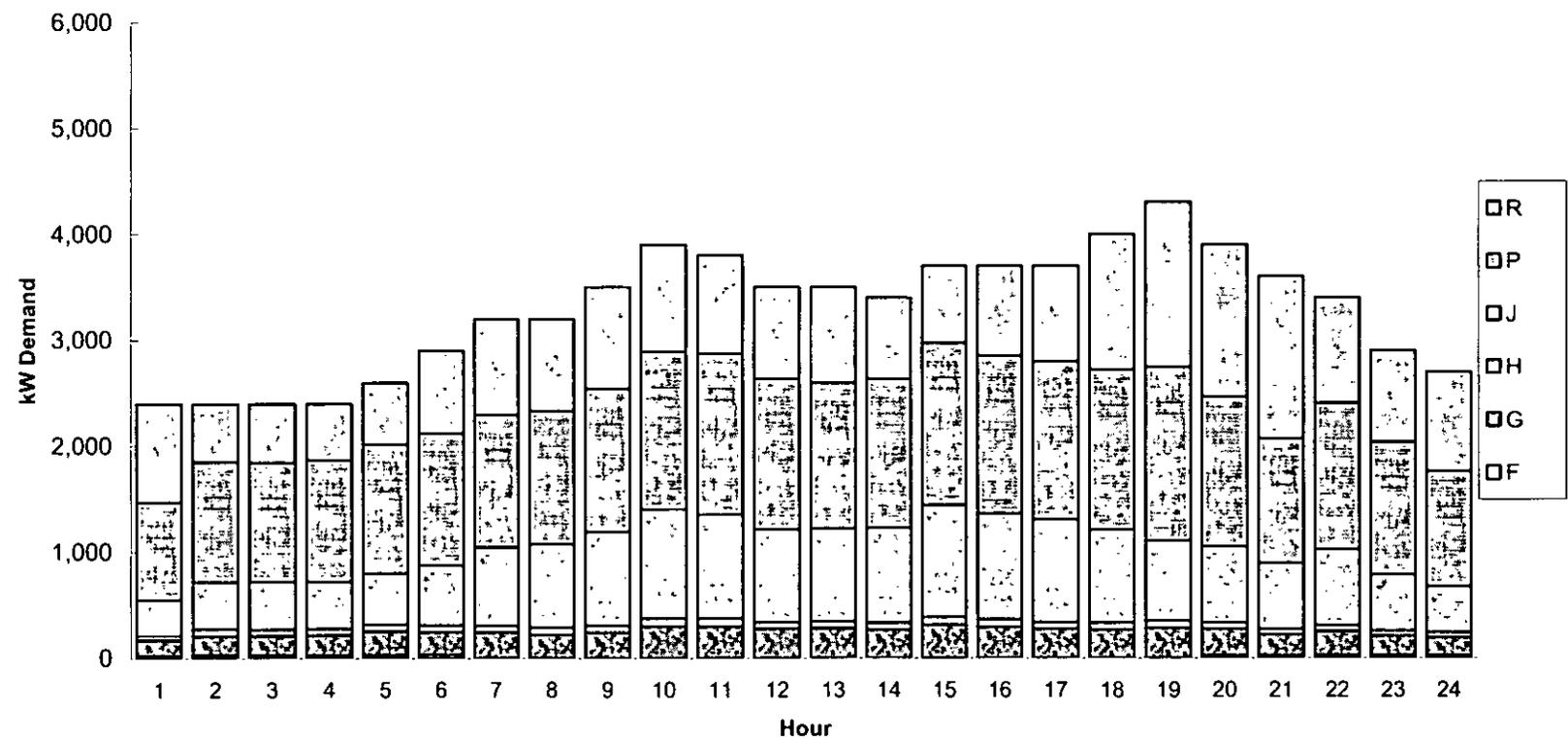
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Exhibit 4.5 b
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 February 2005



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Exhibit 4.5 c
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 March 2005

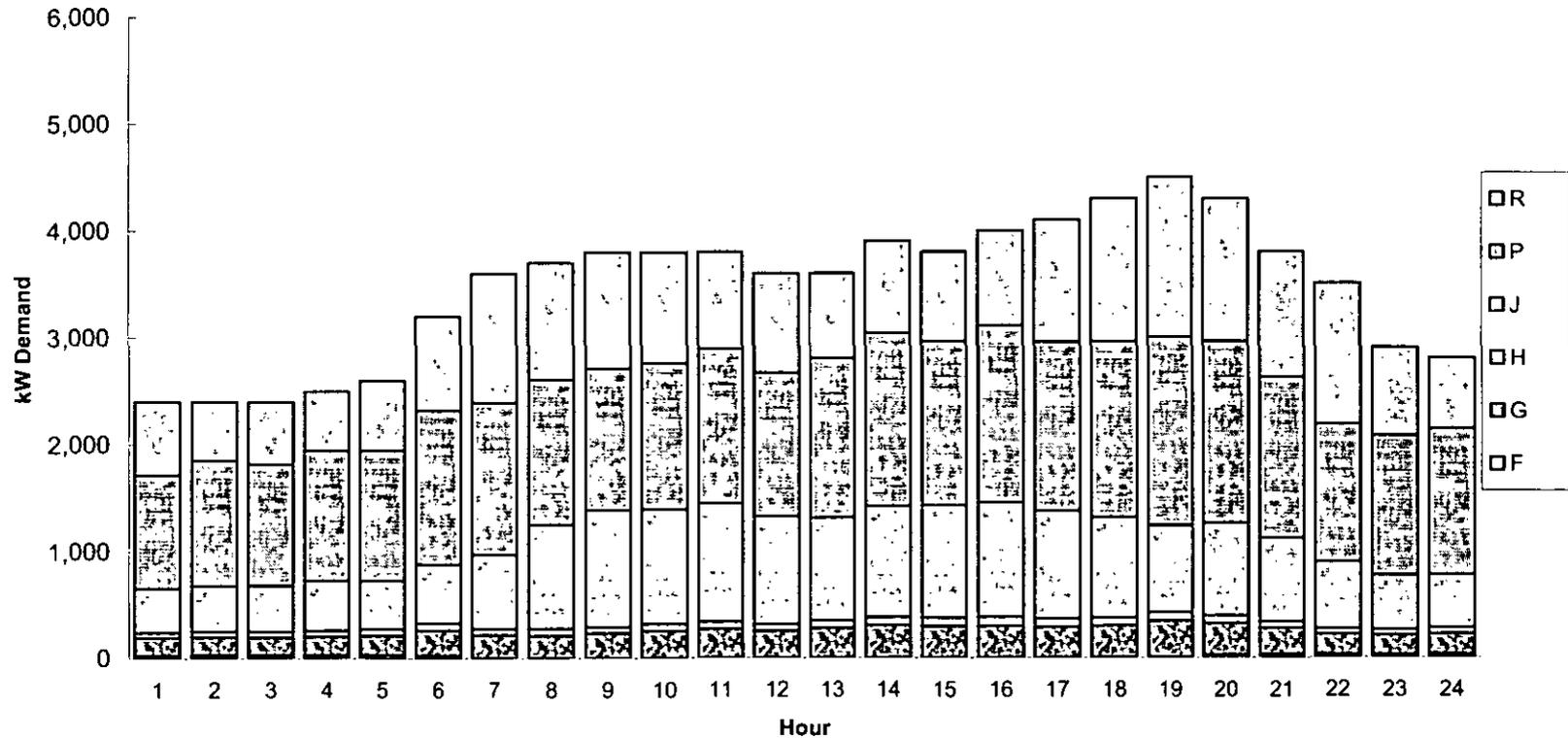


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Exhibit 4.5 d

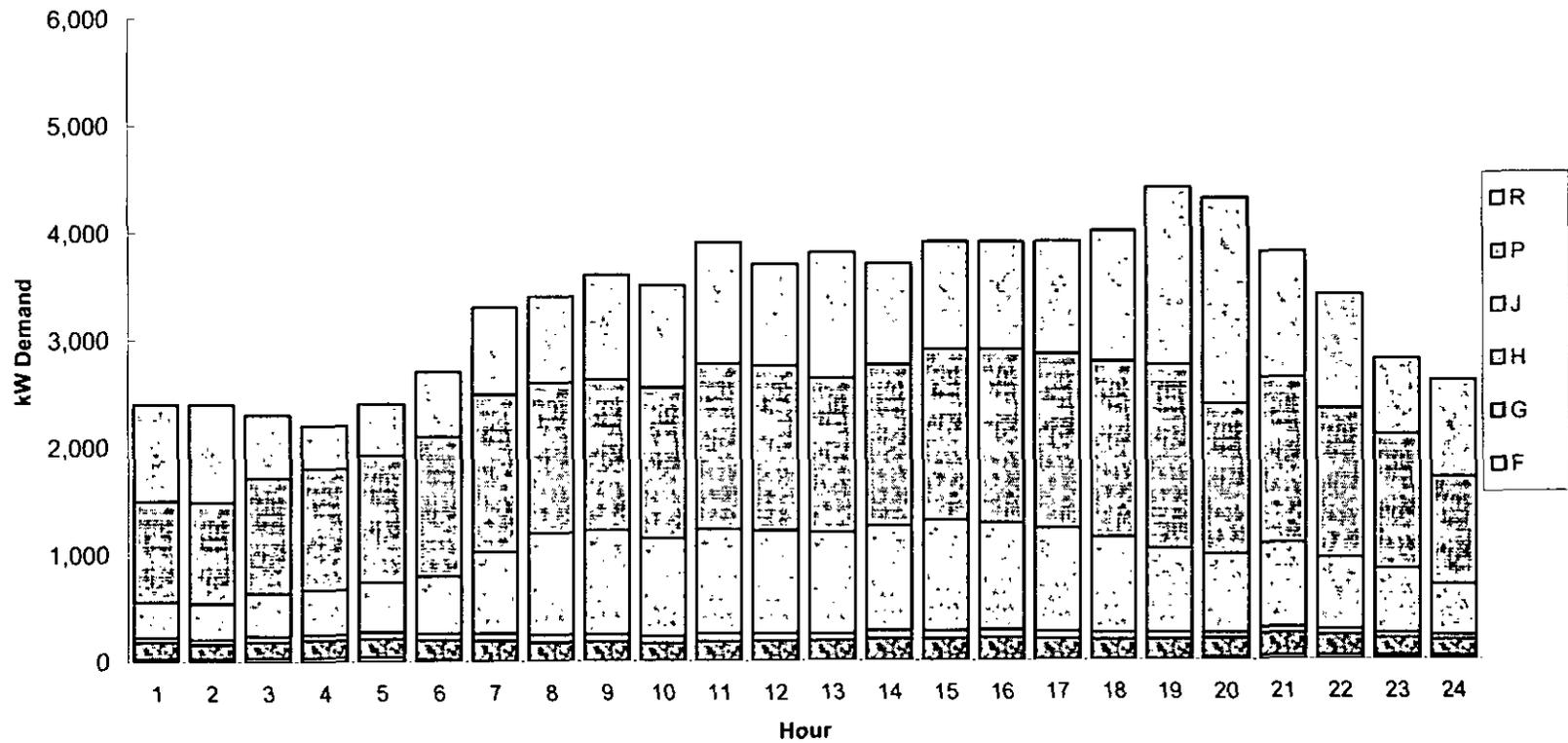
HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
Normalized at the Gross Generation Level

April 2005



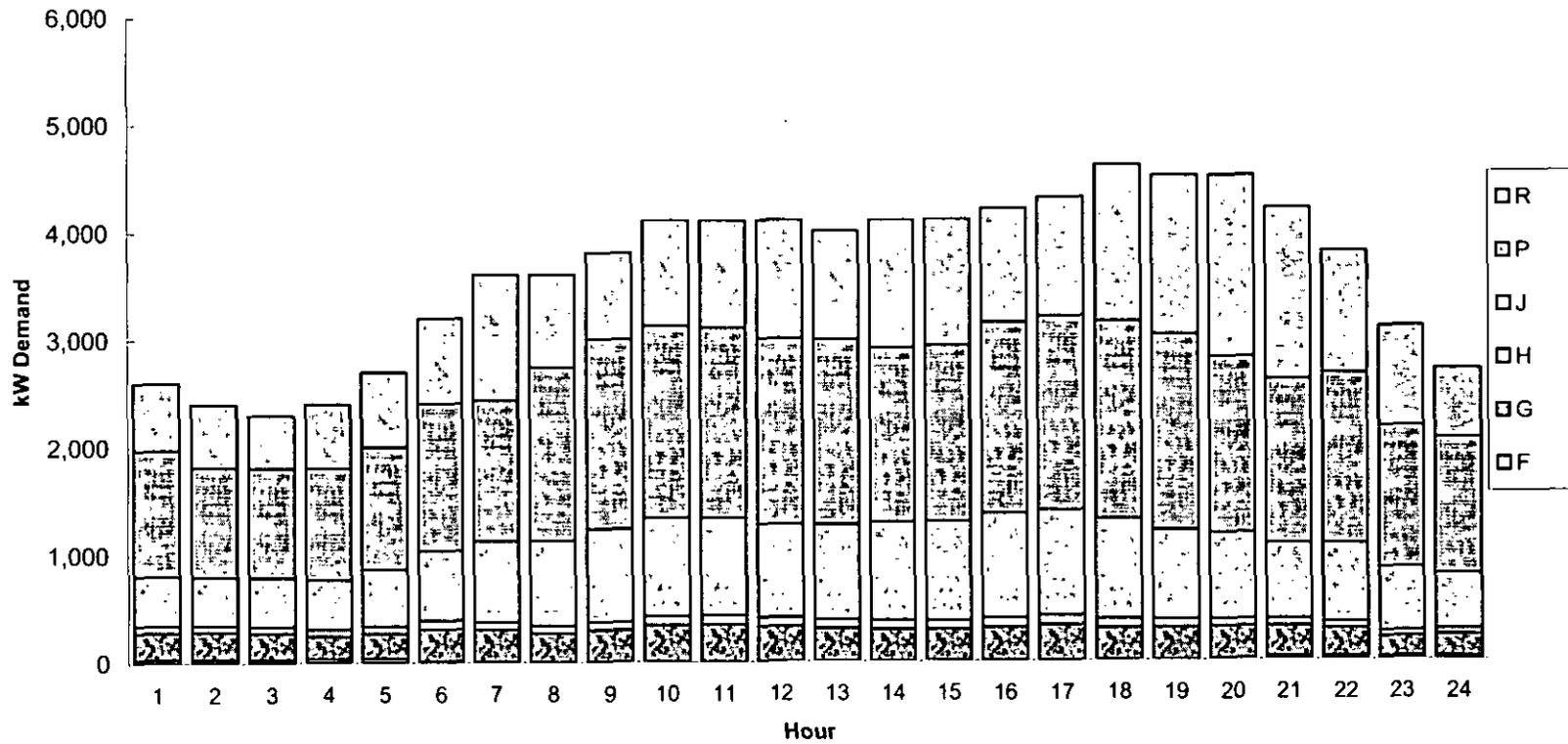
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Exhibit 4.5 e
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 May 2005



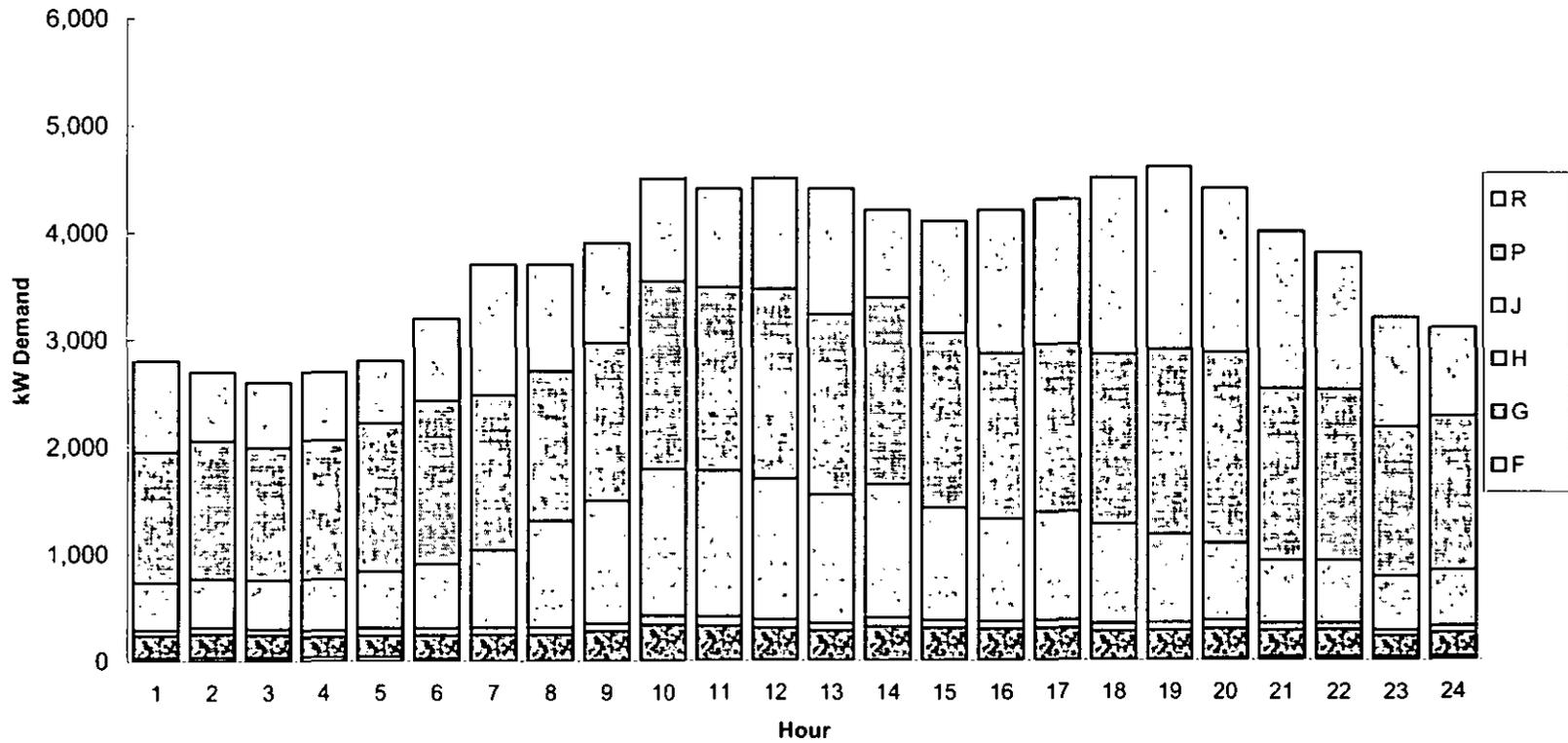
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Exhibit 4.5 f
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 June 2005



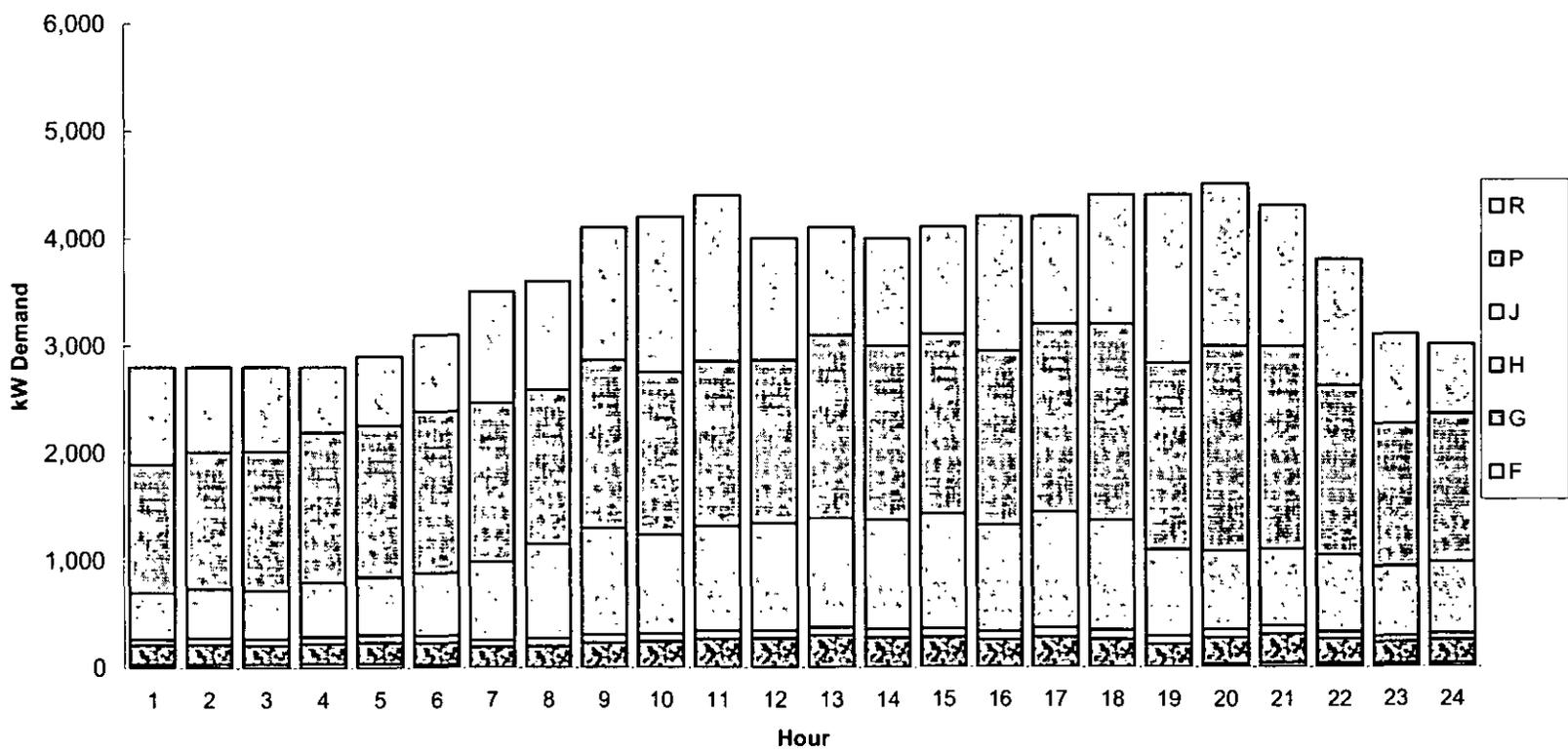
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Exhibit 4.5 g
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 July 2005



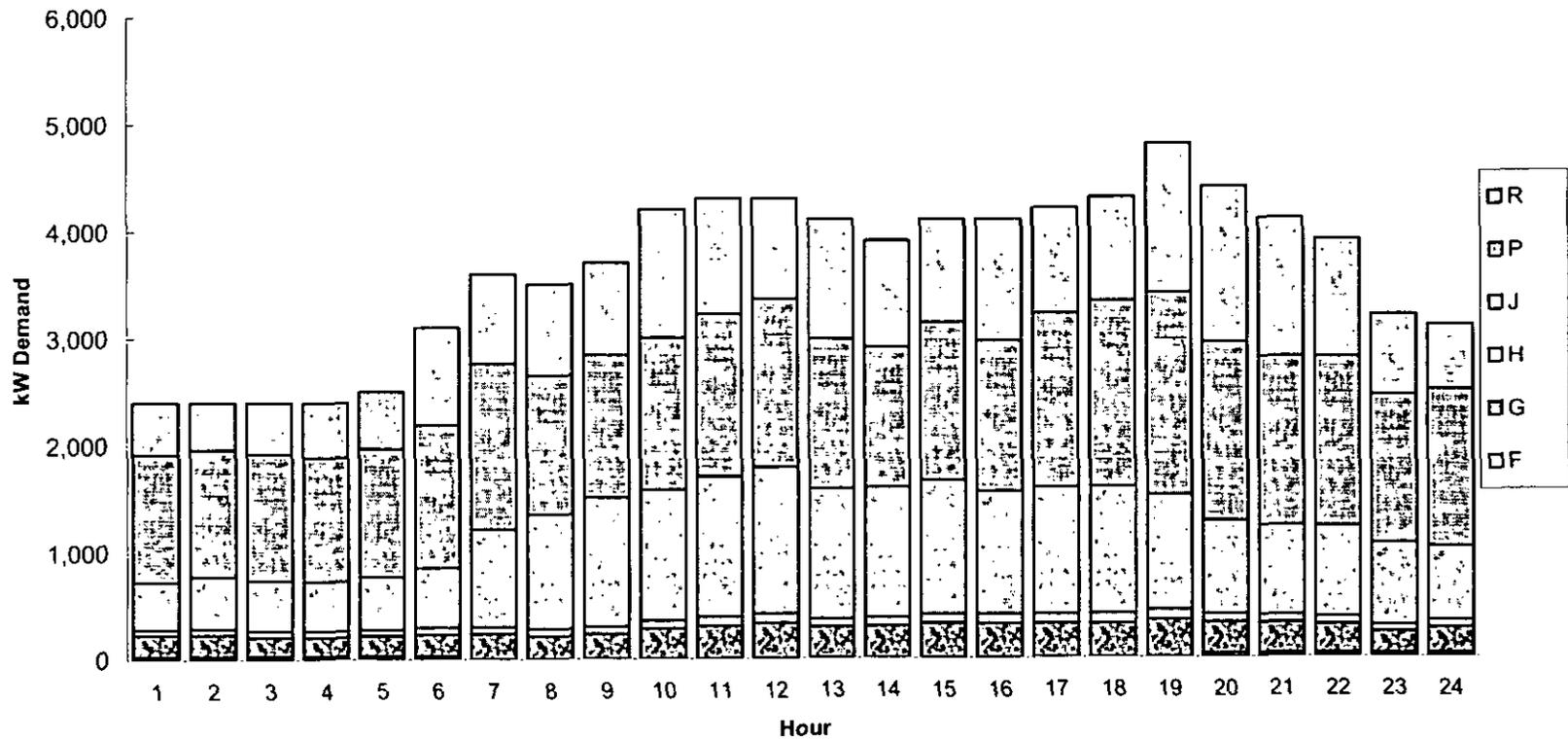
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Exhibit 4.5 h
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 August 2005



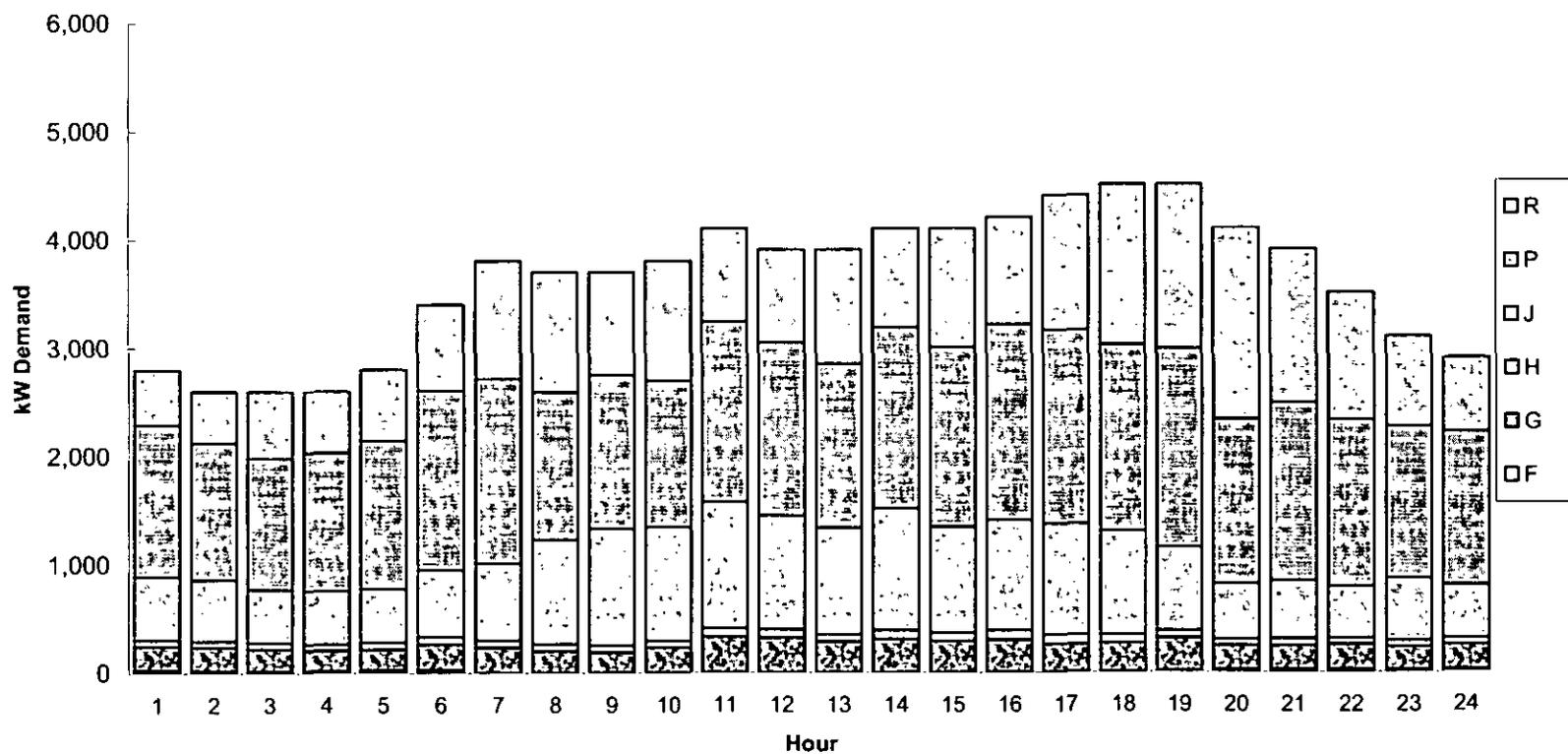
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Exhibit 4.5 i
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 September 2005



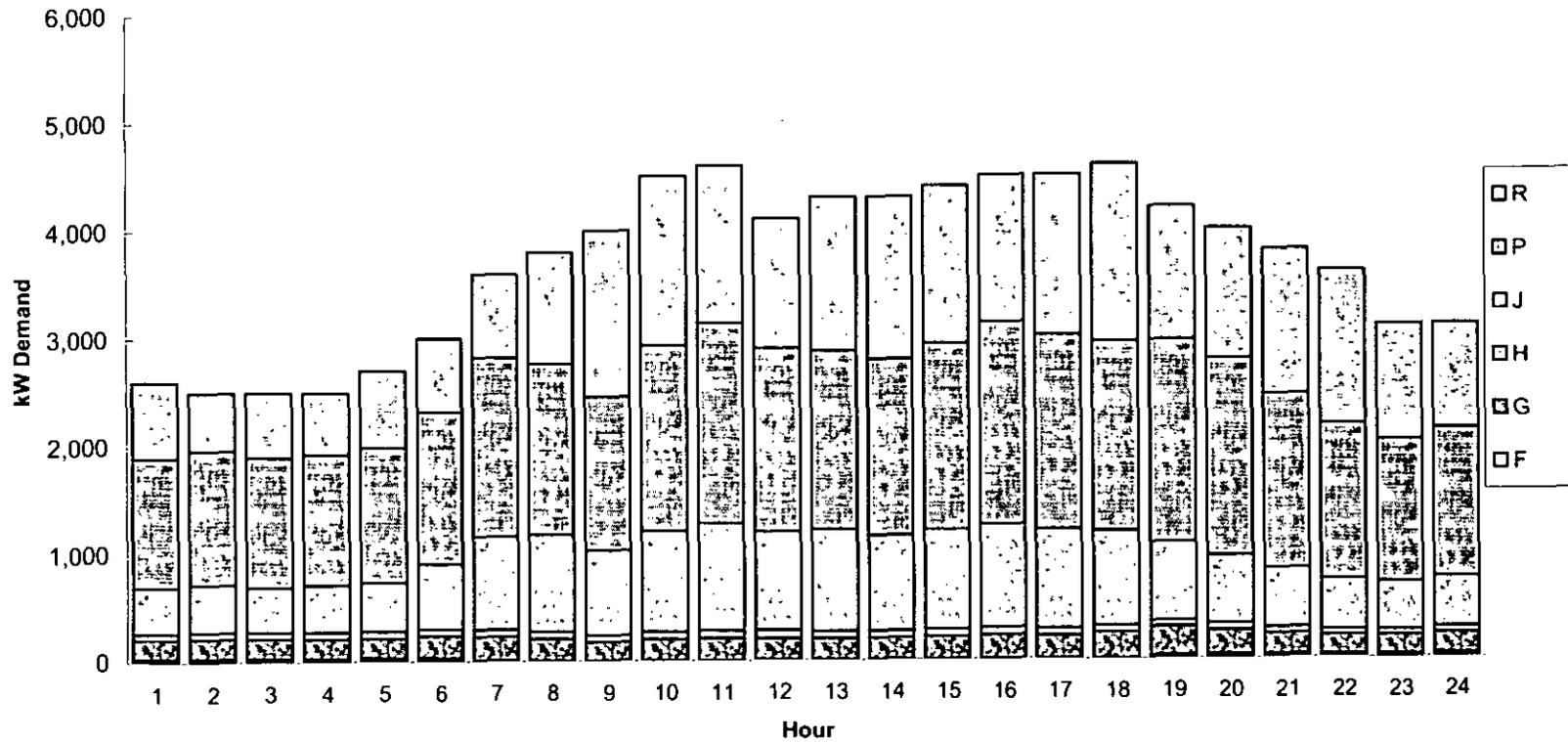
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Exhibit 4.5 j
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 October 2005



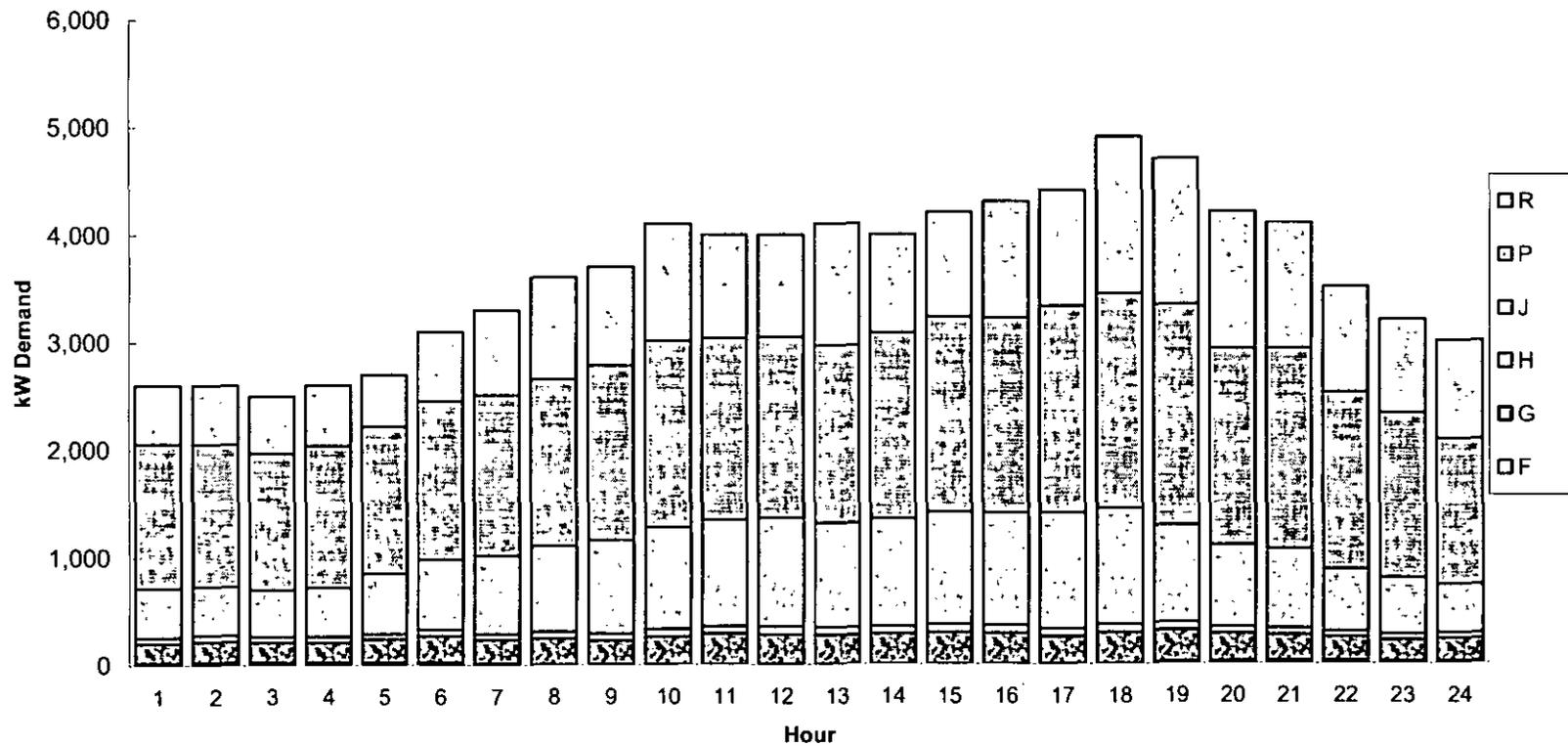
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Exhibit 4.5 k
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 November 2005



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Exhibit 4.5 I
 HOURLY CLASS LOAD FOR THE DAY OF THE SYSTEM PEAK
 Normalized at the Gross Generation Level
 December 2005



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Table 4.6 a

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 kW Demand as a Percent of the System, Normalized at the Gross Generation Level
 January 2005

HOURLY	F	G	H	J	P	R	System Total
1	1	6	2	13	45	34	100 %
2	1	7	2	14	51	24	100
3	1	7	3	14	52	23	100
4	1	7	3	16	50	24	100
5	1	8	2	20	48	21	100
6	1	7	2	21	44	26	100
7	1	7	2	22	42	27	100
8	0	7	2	23	40	29	100
9	0	7	2	23	41	28	100
10	0	7	2	23	40	28	100
11	0	7	2	24	41	26	100
12	0	7	2	23	40	28	100
13	0	7	2	25	41	25	100
14	0	7	2	24	42	25	100
15	0	8	2	25	42	24	100
16	0	7	2	19	36	36	100
17	0	7	2	19	38	34	100
18	0	8	2	20	42	28	100
19	0	6	2	14	37	41	100
20	1	5	1	11	32	50	100
21	1	7	2	11	38	43	100
22	1	5	2	10	38	44	100
23	1	6	2	12	44	35	100
24	1	6	2	13	44	34	100
MIN	0	5	1	10	41	31	100
MAX	1	8	3	25	52	50	100
MEAN	0	7	2	18	49	23	100

The instantaneous system peak of 4.750 MW occurred on January 17, 2005 @ 18:28.

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Table 4.6 b

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

February 2005

HOUR	F	G	H	J	P	R	System Total
1	1	6	2	19	37	36	100 %
2	1	5	2	17	31	44	100
3	2	7	2	24	43	23	100
4	2	7	2	23	44	22	100
5	2	7	3	21	44	23	100
6	2	7	2	22	43	25	100
7	1	7	2	23	37	31	100
8	0	8	2	25	36	29	100
9	0	8	2	29	37	25	100
10	0	8	2	30	33	28	100
11	0	8	2	31	36	23	100
12	0	8	2	31	36	23	100
13	0	9	2	33	36	20	100
14	0	9	2	33	37	19	100
15	0	9	2	29	39	22	100
16	0	9	2	28	39	23	100
17	0	8	2	25	34	31	100
18	0	8	2	22	35	32	100
19	0	8	2	20	39	31	100
20	1	8	2	20	37	33	100
21	1	7	2	20	39	31	100
22	1	6	2	18	36	37	100
23	1	6	2	19	38	34	100
24	1	7	2	22	42	27	100
MIN	0	5	2	17	38	28	100
MAX	2	9	3	33	44	44	100
MEAN	1	7	2	24	31	22	100

The instantaneous system peak of 4.675 MW occurred on February 24, 2005 @ 19:12.

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Table 4.6 c

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

March 2005

HOUR	F	G	H	J	P	R	System Total
1	1	6	2	14	38	39	100 %
2	1	8	3	19	47	23	100
3	1	8	3	19	47	23	100
4	1	8	2	18	48	22	100
5	1	8	3	19	47	22	100
6	1	7	2	20	43	27	100
7	0	7	2	23	39	28	100
8	0	7	2	25	39	27	100
9	0	7	2	25	38	28	100
10	0	8	2	26	38	26	100
11	0	8	2	26	40	25	100
12	0	8	2	25	41	25	100
13	0	8	2	25	39	26	100
14	0	8	2	26	41	23	100
15	0	9	2	29	41	20	100
16	0	8	2	27	40	23	100
17	0	7	2	26	40	24	100
18	0	7	2	22	38	32	100
19	0	7	2	18	38	36	100
20	1	6	2	19	36	37	100
21	1	6	1	17	33	43	100
22	1	7	2	21	41	29	100
23	1	6	2	18	43	30	100
24	1	6	2	16	40	35	100
MIN	0	6	1	14	40	28	100
MAX	1	9	3	29	48	43	100
MEAN	0	7	2	22	38	22	100

The instantaneous system peak of 4.675 MW occurred on March 29, 2005 @ 18:34.

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Table 4.6 d

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

April 2005

HOUR	F	G	H	J	P	R	System Total
1	1	7	2	17	44	29	100 %
2	1	7	2	18	49	23	100
3	1	7	2	18	47	24	100
4	1	7	2	19	49	22	100
5	1	7	2	17	47	25	100
6	1	7	2	17	45	28	100
7	0	6	2	19	39	34	100
8	0	6	2	26	37	30	100
9	0	6	2	29	35	29	100
10	0	7	2	28	36	27	100
11	0	7	2	29	38	24	100
12	0	7	2	28	37	26	100
13	0	8	2	27	42	22	100
14	0	8	2	27	42	22	100
15	0	8	2	28	41	22	100
16	0	7	2	27	41	22	100
17	0	7	2	25	39	28	100
18	0	7	2	22	38	31	100
19	0	8	2	18	39	33	100
20	1	7	2	20	40	31	100
21	1	6	2	21	40	31	100
22	1	5	2	18	37	38	100
23	1	6	2	17	45	28	100
24	1	7	2	18	49	24	100
MIN	0	5	2	17	41	28	100
MAX	1	8	2	29	49	38	100
MEAN	0	7	2	22	44	23	100

The instantaneous system peak of 4.620 MW occurred on April 7, 2005 @ 19:48.

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Table 4.6 e

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

May 2005

HOUR	F	G	H	J	P	R	System Total
1	1	6	2	14	39	38	100 %
2	1	6	2	14	39	38	100
3	2	7	2	17	47	26	100
4	2	7	3	19	51	18	100
5	2	7	3	20	49	20	100
6	1	7	2	20	48	22	100
7	0	6	2	23	44	25	100
8	0	5	2	28	41	24	100
9	0	5	2	27	39	27	100
10	0	5	2	26	40	27	100
11	0	5	2	25	40	29	100
12	0	5	2	26	42	26	100
13	0	5	2	25	38	31	100
14	0	5	2	27	41	26	100
15	0	5	2	26	41	26	100
16	0	5	2	26	41	26	100
17	0	5	2	25	42	27	100
18	0	5	2	22	41	31	100
19	0	4	2	18	39	38	100
20	1	4	1	17	32	45	100
21	1	5	2	21	41	31	100
22	1	6	2	20	41	31	100
23	1	6	2	21	45	25	100
24	1	6	2	18	39	35	100
MIN	0	4	1	14	41	29	100
MAX	2	7	3	28	51	45	100
MEAN	1	5	2	22	43	18	100

The instantaneous system peak of 4.750 MW occurred on May 30, 2005 @ 19:31.

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Table 4.6 f

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

June 2005

HOUR	F	G	H	J	P	R	System Total
1	1	10	2	18	45	24	100 %
2	1	11	3	19	43	24	100
3	1	11	3	20	44	21	100
4	1	9	3	19	43	25	100
5	1	9	3	20	42	26	100
6	1	9	3	20	43	25	100
7	0	8	2	21	36	33	100
8	0	7	2	22	45	24	100
9	0	8	2	23	46	21	100
10	0	8	2	22	44	24	100
11	0	8	2	22	43	24	100
12	0	8	2	21	42	27	100
13	0	8	2	22	43	25	100
14	0	7	2	22	40	29	100
15	0	7	2	23	40	29	100
16	0	7	2	23	42	25	100
17	0	8	2	23	42	26	100
18	0	7	2	20	40	32	100
19	0	7	2	18	41	33	100
20	0	7	2	18	36	37	100
21	1	7	2	17	36	38	100
22	1	7	2	19	42	30	100
23	1	6	2	19	42	30	100
24	1	7	2	19	47	24	100
MIN	0	6	2	17	42	28	100
MAX	1	11	3	23	47	38	100
MEAN	0	8	2	20	44	21	100

The instantaneous system peak of 4.760 MW occurred on June 30, 2005 @ 18:15.

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Table 4.6 g

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

July 2005

HOUR	F	G	H	J	P	R	System Total
1	1	7	2	16	44	30	100 %
2	1	8	2	17	48	24	100
3	1	8	2	18	48	24	100
4	1	7	2	18	48	24	100
5	1	7	3	19	50	21	100
6	1	7	2	19	48	24	100
7	0	7	2	20	39	33	100
8	0	7	2	27	38	27	100
9	0	7	2	29	38	24	100
10	0	7	2	31	39	21	100
11	0	7	2	31	39	21	100
12	0	7	2	29	40	23	100
13	0	6	2	27	38	27	100
14	0	8	2	30	42	19	100
15	0	7	2	26	40	26	100
16	0	7	2	23	37	32	100
17	0	7	2	23	36	31	100
18	0	6	2	21	35	37	100
19	0	6	2	18	38	37	100
20	0	6	2	16	41	35	100
21	1	6	2	15	40	37	100
22	1	7	2	15	42	34	100
23	1	6	2	16	44	32	100
24	1	7	2	17	46	27	100
MIN	0	6	2	15	41	28	100
MAX	1	8	3	31	50	37	100
MEAN	0	7	2	22	47	22	100

The instantaneous system peak of 4.780 MW occurred on July 28, 2005 @ 10:48.

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Table 4.6 h

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

August 2005

HOURLY	F	G	H	J	P	R	System Total
1	1	7	2	15	43	32	100 %
2	1	7	2	16	46	28	100
3	1	6	2	16	46	28	100
4	1	7	2	18	50	22	100
5	1	7	3	19	49	22	100
6	1	7	2	19	49	23	100
7	0	6	2	21	42	30	100
8	0	6	2	24	40	28	100
9	0	6	2	24	38	30	100
10	0	6	2	22	36	35	100
11	0	6	2	22	35	35	100
12	0	7	2	25	38	29	100
13	0	7	2	25	42	25	100
14	0	7	2	25	41	25	100
15	0	7	2	26	41	24	100
16	0	6	2	24	39	30	100
17	0	7	2	26	42	24	100
18	0	6	2	23	42	28	100
19	0	5	2	18	40	36	100
20	1	5	2	16	43	34	100
21	1	6	2	17	44	31	100
22	1	6	2	19	42	31	100
23	1	7	2	21	43	27	100
24	1	7	2	22	46	21	100
MIN	0	5	2	15	42	29	100
MAX	1	7	3	26	50	36	100
MEAN	0	6	2	21	43	22	100

The instantaneous system peak of 4.700 MW occurred on August 8, 2005 @ 19:45.

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Table 4.6 i

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 kW Demand as a Percent of the System, Normalized at the Gross Generation Level
 September 2005

HOUR	F	G	H	J	P	R	System Total
1	1	8	2	19	50	20	100 %
2	1	8	3	20	49	18	100
3	1	8	3	20	49	20	100
4	1	8	2	19	48	21	100
5	1	8	2	20	48	21	100
6	1	7	2	18	43	30	100
7	0	7	2	25	43	23	100
8	0	6	2	31	37	24	100
9	0	6	2	33	36	23	100
10	0	7	2	29	34	29	100
11	0	7	2	30	35	25	100
12	0	8	2	32	37	22	100
13	0	7	2	30	34	27	100
14	0	8	2	31	34	26	100
15	0	8	2	31	36	24	100
16	0	8	2	28	34	28	100
17	0	8	2	28	39	24	100
18	0	7	2	28	40	23	100
19	0	7	2	22	39	29	100
20	1	7	2	20	38	33	100
21	1	7	2	20	39	32	100
22	1	7	2	22	41	28	100
23	1	6	2	24	43	24	100
24	1	8	2	22	47	20	100
MIN	0	6	2	18	40	25	100
MAX	1	8	3	33	50	33	100
MEAN	0	7	2	25	48	18	100

The instantaneous system peak of 4.875 MW occurred on September 8, 2005 @ 18:51.

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Table 4.6 j

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

October 2005

HOUR	F	G	H	J	P	R	System Total
1	1	8	2	21	50	18	100 %
2	1	8	2	22	49	18	100
3	1	8	2	19	47	24	100
4	1	7	2	19	49	22	100
5	1	7	2	18	49	23	100
6	1	7	2	18	49	23	100
7	0	6	2	19	45	29	100
8	0	5	2	26	37	30	100
9	0	5	2	29	38	26	100
10	0	6	2	28	36	29	100
11	0	8	2	29	41	21	100
12	0	8	2	27	41	22	100
13	0	7	2	25	39	27	100
14	0	8	2	27	41	22	100
15	0	7	2	24	40	27	100
16	0	7	2	24	43	24	100
17	0	6	2	23	41	28	100
18	0	6	2	21	38	33	100
19	0	7	2	17	41	34	100
20	1	5	2	12	37	43	100
21	1	5	2	14	42	36	100
22	1	6	2	14	44	34	100
23	1	7	2	19	45	27	100
24	1	8	2	17	49	24	100
MIN	0	5	2	12	42	27	100
MAX	1	8	2	29	50	43	100
MEAN	0	7	2	21	47	18	100

The instantaneous system peak of 4.740 MW occurred on October 25, 2005 @ 18:50.

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Table 4.6 k

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

November 2005

HOUR	F	G	H	J	P	R	System Total
1	1	7	2	16	46	27	100 %
2	1	7	2	18	50	22	100
3	1	7	2	17	48	24	100
4	1	8	3	17	49	23	100
5	1	7	2	17	46	27	100
6	1	7	2	20	47	23	100
7	0	6	2	24	46	22	100
8	0	5	2	24	42	27	100
9	0	4	2	20	36	39	100
10	0	4	2	21	38	35	100
11	0	5	2	22	40	32	100
12	0	5	2	22	42	29	100
13	0	5	2	22	39	33	100
14	0	5	2	21	38	35	100
15	0	5	2	21	39	33	100
16	0	5	2	21	42	30	100
17	0	5	2	20	40	33	100
18	0	5	1	19	38	36	100
19	1	6	2	17	45	30	100
20	1	6	2	16	46	30	100
21	1	5	2	14	43	36	100
22	1	5	2	13	40	40	100
23	1	6	2	14	43	35	100
24	1	6	2	15	45	32	100
MIN	0	4	1	13	42	31	100
MAX	1	8	3	24	50	40	100
MEAN	1	6	2	19	48	22	100

The instantaneous system peak of 4.800 MW occurred on November 24, 2005 @ 18:40.

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Table 4.6 I
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level
December 2005

HOUR	F	G	H	J	P	R	System Total
1	1	7	2	18	52	21	100 %
2	1	7	2	18	51	21	100
3	1	7	2	17	51	21	100
4	1	7	2	18	51	22	100
5	1	8	2	21	51	18	100
6	1	8	2	21	48	21	100
7	0	7	2	22	45	24	100
8	0	7	2	22	43	26	100
9	0	6	2	24	44	25	100
10	0	6	2	23	42	27	100
11	0	7	2	25	42	24	100
12	0	7	2	25	42	24	100
13	0	7	2	24	40	28	100
14	0	7	2	25	43	23	100
15	0	7	2	25	43	23	100
16	0	7	2	24	42	25	100
17	0	6	2	25	44	24	100
18	0	6	2	22	41	30	100
19	0	6	2	19	44	29	100
20	1	6	2	18	44	30	100
21	1	6	2	18	45	29	100
22	1	6	2	17	47	28	100
23	1	6	2	16	48	27	100
24	1	7	2	15	45	31	100
MIN	0	6	2	15	45	25	100
MAX	1	8	2	25	52	31	100
MEAN	0	7	2	21	51	19	100

The instantaneous system peak of 5.150 MW occurred on December 27, 2005 @ 18:35.

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Table 4.7 a
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 Non-normalized at the Gross Generation Level
 January 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	23	175	58	347	1,248	931	2,781	2,500	+ 11.2
2	23	176	58	342	1,215	579	2,393	2,400	- 0.3
3	23	173	62	337	1,219	531	2,345	2,300	+ 1.9
4	23	169	60	374	1,187	559	2,371	2,400	- 1.2
5	23	185	59	488	1,189	525	2,470	2,800	- 11.8
6	23	189	54	593	1,235	718	2,812	3,000	- 6.3
7	16	200	57	650	1,271	816	3,011	3,300	- 8.8
8	0	232	70	782	1,343	974	3,401	3,300	+ 3.1
9	0	232	68	798	1,453	993	3,544	3,500	+ 1.2
10	0	246	72	843	1,455	1,036	3,653	3,700	- 1.3
11	0	263	79	881	1,498	941	3,662	3,900	- 6.1
12	0	250	75	857	1,475	1,023	3,680	3,900	- 5.6
13	0	248	69	876	1,472	905	3,569	4,000	- 10.8
14	0	255	70	836	1,450	856	3,466	3,900	- 11.1
15	0	266	74	862	1,464	853	3,519	3,900	- 9.8
16	0	272	74	750	1,454	1,458	4,009	3,900	+ 2.8
17	0	279	75	743	1,504	1,315	3,916	4,000	- 2.1
18	0	272	74	708	1,468	993	3,516	4,400	- 20.1
19	10	260	70	599	1,543	1,744	4,226	4,400	- 4.0
20	23	249	65	544	1,522	2,420	4,822	4,100	+ 17.6
21	23	281	60	441	1,514	1,714	4,032	3,700	+ 9.0
22	23	211	62	413	1,497	1,763	3,969	3,400	+ 16.7
23	23	178	62	382	1,388	1,099	3,133	2,800	+ 11.9
24	23	179	62	372	1,313	1,010	2,958	2,800	+ 5.6
TOTAL	276	5,438	1,590	14,821	33,375	25,758	81,258	82,300	- 1.3
MIN	0	169	54	337	1,187	525	2,345	2,300	- 20.1
MAX	23	281	79	881	1,543	2,420	4,822	4,400	+ 17.6
MEAN	12	227	66	618	1,391	1,073	3,386	3,429	- 0.7

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Table 4.7 b

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
Non-normalized at the Gross Generation Level

February 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	36	164	55	568	1,087	1,071	2,982	2,400	+ 24.2
2	36	161	58	578	1,052	1,464	3,350	2,400	+ 39.6
3	36	163	55	579	1,051	567	2,451	2,400	+ 2.1
4	36	168	55	546	1,068	539	2,413	2,400	+ 0.5
5	36	162	58	494	1,021	533	2,305	2,600	- 11.3
6	36	168	51	554	1,064	618	2,491	3,000	- 17.0
7	19	225	53	710	1,134	957	3,100	3,400	- 8.8
8	0	269	64	823	1,182	948	3,285	3,500	- 6.1
9	0	273	65	1,009	1,275	851	3,473	3,600	- 3.5
10	0	305	70	1,182	1,268	1,075	3,900	3,900	+ 0.0
11	0	298	77	1,173	1,350	839	3,739	4,100	- 8.8
12	0	319	76	1,188	1,356	855	3,796	4,200	- 9.6
13	0	330	70	1,198	1,342	749	3,690	4,100	- 10.0
14	0	345	77	1,241	1,388	727	3,778	3,800	- 0.6
15	0	324	66	1,057	1,428	786	3,660	3,800	- 3.7
16	0	354	72	1,047	1,461	857	3,791	3,900	- 2.8
17	0	330	81	1,065	1,420	1,299	4,194	4,300	- 2.5
18	0	350	78	946	1,488	1,355	4,216	4,200	+ 0.4
19	6	325	75	758	1,521	1,176	3,861	4,600	- 16.1
20	36	306	66	800	1,465	1,310	3,984	4,300	- 7.3
21	36	250	63	760	1,460	1,159	3,728	3,900	- 4.4
22	36	243	60	706	1,399	1,436	3,879	3,500	+ 10.8
23	36	198	61	660	1,320	1,179	3,453	2,900	+ 19.1
24	36	204	58	636	1,217	775	2,924	2,900	+ 0.8
TOTAL	424	6,235	1,563	20,279	30,817	23,125	82,443	84,100	- 2.0
MIN	0	161	51	494	1,021	533	2,305	2,400	- 17.0
MAX	36	354	81	1,241	1,521	1,464	4,216	4,600	+ 39.6
MEAN	18	260	65	845	1,284	964	3,435	3,504	- 0.6

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Table 4.7 c
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 Non-normalized at the Gross Generation Level
 March 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	29	190	55	432	1,179	1,190	3,075	2,400	+ 28.1
2	29	176	62	437	1,110	538	2,352	2,400	- 2.0
3	29	174	60	436	1,081	534	2,314	2,400	- 3.6
4	29	181	56	425	1,106	508	2,305	2,400	- 4.0
5	29	192	59	425	1,078	516	2,300	2,600	- 11.5
6	29	183	58	493	1,090	678	2,531	2,900	- 12.7
7	5	218	56	676	1,144	827	2,927	3,200	- 8.5
8	0	221	67	790	1,262	871	3,211	3,200	+ 0.3
9	0	245	68	909	1,379	986	3,587	3,500	+ 2.5
10	0	278	72	964	1,393	950	3,657	3,900	- 6.2
11	0	293	73	964	1,492	917	3,740	3,800	- 1.6
12	0	302	72	968	1,573	962	3,877	3,500	+ 10.8
13	0	310	69	964	1,510	996	3,849	3,500	+ 10.0
14	0	299	73	1,005	1,574	862	3,814	3,400	+ 12.2
15	0	305	70	1,030	1,491	709	3,606	3,700	- 2.5
16	0	296	75	1,011	1,508	857	3,748	3,700	+ 1.3
17	0	289	70	1,020	1,570	953	3,902	3,700	+ 5.5
18	0	274	70	903	1,554	1,322	4,123	4,000	+ 3.1
19	0	262	66	709	1,539	1,466	4,043	4,300	- 6.0
20	28	278	66	811	1,592	1,618	4,393	3,900	+ 12.7
21	29	263	66	825	1,557	2,028	4,768	3,600	+ 32.4
22	29	236	60	766	1,469	1,063	3,624	3,400	+ 6.6
23	29	201	59	592	1,400	965	3,245	2,900	+ 11.9
24	29	195	60	506	1,279	1,105	3,175	2,700	+ 17.6
TOTAL	326	5,861	1,563	18,062	32,932	23,422	82,164	79,000	+ 4.0
MIN	0	174	55	425	1,078	508	2,300	2,400	- 12.7
MAX	29	310	75	1,030	1,592	2,028	4,768	4,300	+ 32.4
MEAN	14	244	65	753	1,372	976	3,424	3,292	+ 4.0

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Table 4.7 d

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
Non-normalized at the Gross Generation Level

April 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	30	190	50	459	1,181	759	2,668	2,400	+ 11.2
2	30	169	54	428	1,173	548	2,402	2,400	+ 0.1
3	30	162	54	425	1,118	575	2,364	2,400	- 1.5
4	30	160	54	434	1,126	519	2,322	2,500	- 7.1
5	30	164	55	412	1,111	601	2,374	2,600	- 8.7
6	21	189	54	440	1,160	710	2,574	3,200	- 19.6
7	0	195	51	620	1,268	1,084	3,219	3,600	- 10.6
8	0	202	64	932	1,298	1,048	3,545	3,700	- 4.2
9	0	245	63	1,135	1,379	1,137	3,959	3,800	+ 4.2
10	0	261	67	1,094	1,395	1,060	3,876	3,800	+ 2.0
11	0	265	70	1,091	1,433	898	3,757	3,800	- 1.1
12	0	272	71	1,089	1,453	1,008	3,892	3,600	+ 8.1
13	0	278	69	951	1,482	789	3,569	3,600	- 0.9
14	0	278	69	951	1,482	789	3,569	3,900	- 8.5
15	0	277	75	986	1,445	788	3,572	3,800	- 6.0
16	0	266	76	963	1,486	801	3,593	4,000	- 10.2
17	0	269	71	943	1,476	1,070	3,829	4,100	- 6.6
18	0	274	69	855	1,503	1,227	3,928	4,300	- 8.6
19	0	295	71	705	1,523	1,297	3,891	4,500	- 13.5
20	24	270	67	789	1,554	1,221	3,925	4,300	- 8.7
21	30	246	65	788	1,516	1,182	3,827	3,800	+ 0.7
22	30	213	58	701	1,459	1,488	3,948	3,500	+ 12.8
23	30	200	58	553	1,431	903	3,174	2,900	+ 9.5
24	30	183	55	477	1,310	639	2,695	2,800	- 3.7
TOTAL	315	5,523	1,511	18,221	32,763	22,140	80,473	83,300	- 3.4
MIN	0	160	50	412	1,111	519	2,322	2,400	- 19.6
MAX	30	295	76	1,135	1,554	1,488	3,959	4,500	+ 12.8
MEAN	13	230	63	759	1,365	922	3,353	3,471	- 3.0

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Table 4.7 e
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 Non-normalized at the Gross Generation Level
 May 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	38	211	57	463	1,277	1,236	3,282	2,400	+ 36.7
2	38	177	57	453	1,264	1,225	3,215	2,400	+ 34.0
3	38	165	58	441	1,178	652	2,533	2,300	+ 10.1
4	38	171	58	445	1,201	428	2,341	2,200	+ 6.4
5	38	165	58	451	1,138	464	2,314	2,400	- 3.6
6	16	160	57	472	1,160	536	2,401	2,700	- 11.1
7	0	163	59	647	1,241	687	2,797	3,300	- 15.2
8	0	160	66	869	1,282	738	3,114	3,400	- 8.4
9	0	171	65	930	1,347	935	3,447	3,600	- 4.3
10	0	169	67	940	1,446	980	3,603	3,500	+ 2.9
11	0	171	73	912	1,457	1,068	3,681	3,900	- 5.6
12	0	179	70	924	1,485	914	3,572	3,700	- 3.5
13	0	189	71	970	1,479	1,206	3,916	3,800	+ 3.0
14	0	199	75	972	1,486	936	3,669	3,700	- 0.8
15	0	194	72	998	1,549	972	3,785	3,900	- 2.9
16	0	208	73	988	1,599	993	3,862	3,900	- 1.0
17	0	187	69	933	1,581	1,019	3,790	3,900	- 2.8
18	0	181	62	867	1,593	1,184	3,887	4,000	- 2.8
19	0	175	60	719	1,579	1,517	4,050	4,400	- 7.9
20	24	197	64	830	1,575	2,166	4,856	4,300	+ 12.9
21	38	219	62	836	1,642	1,246	4,044	3,800	+ 6.4
22	38	206	57	730	1,514	1,159	3,704	3,400	+ 9.0
23	38	186	57	691	1,444	810	3,226	2,800	+ 15.2
24	38	201	56	638	1,343	1,211	3,487	2,600	+ 34.1
TOTAL	383	4,406	1,526	18,120	33,858	24,282	82,576	80,300	+ 2.8
MIN	0	160	56	441	1,138	428	2,314	2,200	- 15.2
MAX	38	219	75	998	1,642	2,166	4,856	4,400	+ 36.7
MEAN	16	184	64	755	1,411	1,012	3,441	3,346	+ 4.2

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Table 4.7 f

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
Non-normalized at the Gross Generation Level

June 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	32	246	62	456	1,154	617	2,567	2,600	- 1.3
2	32	251	64	440	1,012	579	2,379	2,400	- 0.9
3	32	235	62	437	987	470	2,222	2,300	- 3.4
4	32	197	59	437	976	560	2,263	2,400	- 5.7
5	32	198	59	450	971	599	2,310	2,700	- 14.5
6	12	213	62	471	999	578	2,335	3,200	- 27.0
7	0	259	61	646	1,122	1,004	3,092	3,600	- 14.1
8	0	261	72	773	1,579	844	3,528	3,600	- 2.0
9	0	289	75	834	1,709	779	3,686	3,800	- 3.0
10	0	315	78	847	1,654	911	3,805	4,100	- 7.2
11	0	333	85	869	1,702	963	3,952	4,100	- 3.6
12	0	327	86	876	1,740	1,111	4,140	4,100	+ 1.0
13	0	305	84	885	1,726	1,015	4,015	4,000	+ 0.4
14	0	316	88	975	1,726	1,266	4,371	4,100	+ 6.6
15	0	312	86	997	1,759	1,262	4,416	4,100	+ 7.7
16	0	303	89	961	1,752	1,044	4,149	4,200	- 1.2
17	0	321	89	954	1,756	1,070	4,190	4,300	- 2.6
18	0	284	82	878	1,745	1,379	4,368	4,600	- 5.0
19	0	287	75	790	1,738	1,405	4,295	4,500	- 4.6
20	14	323	79	875	1,780	1,836	4,906	4,500	+ 9.0
21	32	323	80	802	1,748	1,831	4,816	4,200	+ 14.7
22	32	275	67	772	1,687	1,205	4,038	3,800	+ 6.3
23	32	226	65	710	1,586	1,122	3,742	3,100	+ 20.7
24	32	233	65	598	1,484	752	3,164	2,700	+ 17.2
TOTAL	314	6,632	1,775	17,733	36,092	24,203	86,750	87,000	- 0.3
MIN	0	197	59	437	971	470	2,222	2,300	- 27.0
MAX	32	333	89	997	1,780	1,836	4,906	4,600	+ 20.7
MEAN	13	276	74	739	1,504	1,008	3,615	3,625	- 0.5

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Table 4.7 g

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
Non-normalized at the Gross Generation Level

July 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	32	215	54	464	1,282	888	2,935	2,800	+ 4.8
2	32	216	59	457	1,278	639	2,681	2,700	- 0.7
3	32	206	57	453	1,224	605	2,578	2,600	- 0.9
4	32	177	57	447	1,214	595	2,521	2,700	- 6.6
5	32	174	62	462	1,216	513	2,460	2,800	- 12.2
6	16	176	57	482	1,237	627	2,595	3,200	- 18.9
7	0	216	57	637	1,276	1,077	3,264	3,700	- 11.8
8	0	242	69	978	1,376	983	3,647	3,700	- 1.4
9	0	265	73	1,119	1,440	910	3,808	3,900	- 2.4
10	0	281	72	1,155	1,473	800	3,781	4,500	- 16.0
11	0	284	76	1,207	1,523	810	3,900	4,400	- 11.4
12	0	277	74	1,201	1,627	945	4,123	4,500	- 8.4
13	0	264	68	1,154	1,618	1,128	4,233	4,400	- 3.8
14	0	298	77	1,180	1,648	773	3,976	4,200	- 5.3
15	0	299	73	1,041	1,619	1,041	4,073	4,100	- 0.7
16	0	300	75	995	1,606	1,387	4,364	4,200	+ 3.9
17	0	302	78	1,019	1,585	1,365	4,349	4,300	+ 1.1
18	0	270	76	940	1,607	1,673	4,566	4,500	+ 1.5
19	0	260	73	784	1,641	1,618	4,376	4,600	- 4.9
20	13	260	73	676	1,670	1,433	4,125	4,400	- 6.2
21	32	254	71	613	1,673	1,532	4,175	4,000	+ 4.4
22	32	250	62	587	1,603	1,281	3,816	3,800	+ 0.4
23	32	216	62	554	1,545	1,140	3,550	3,200	+ 10.9
24	32	216	61	514	1,420	818	3,062	3,100	- 1.2
TOTAL	319	5,918	1,618	19,118	35,402	24,580	86,956	90,300	- 3.7
MIN	0	174	54	447	1,214	513	2,460	2,600	- 18.9
MAX	32	302	78	1,207	1,673	1,673	4,566	4,600	+ 10.9
MEAN	13	247	67	797	1,475	1,024	3,623	3,763	- 3.6

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Table 4.7 h
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 Non-normalized at the Gross Generation Level
 August 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	37	211	60	502	1,393	1,050	3,252	2,800	+ 16.1
2	37	193	65	486	1,357	840	2,978	2,800	+ 6.3
3	37	179	64	468	1,346	818	2,913	2,800	+ 4.0
4	37	181	61	479	1,341	580	2,680	2,800	- 4.3
5	37	173	65	478	1,263	575	2,591	2,900	- 10.7
6	25	174	60	502	1,294	612	2,667	3,100	- 14.0
7	0	186	63	705	1,434	999	3,387	3,500	- 3.2
8	0	203	74	893	1,460	1,029	3,659	3,600	+ 1.6
9	0	232	76	996	1,571	1,243	4,119	4,100	+ 0.5
10	0	270	79	1,021	1,668	1,605	4,643	4,200	+ 10.6
11	0	287	85	1,048	1,655	1,670	4,745	4,400	+ 7.8
12	0	294	82	1,091	1,661	1,249	4,376	4,000	+ 9.4
13	0	312	76	1,048	1,763	1,039	4,238	4,100	+ 3.4
14	0	299	84	1,084	1,729	1,072	4,267	4,000	+ 6.7
15	0	289	81	1,106	1,728	1,032	4,235	4,100	+ 3.3
16	0	283	84	1,088	1,780	1,384	4,618	4,200	+ 10.0
17	0	278	84	1,072	1,743	1,000	4,177	4,200	- 0.6
18	0	248	81	976	1,742	1,155	4,202	4,400	- 4.5
19	0	218	73	807	1,752	1,577	4,427	4,400	+ 0.6
20	24	226	73	671	1,761	1,392	4,148	4,500	- 7.8
21	37	246	71	665	1,749	1,224	3,992	4,300	- 7.2
22	37	249	69	776	1,717	1,281	4,129	3,800	+ 8.7
23	37	247	66	795	1,627	1,023	3,794	3,100	+ 22.4
24	37	228	66	712	1,472	687	3,201	3,000	+ 6.7
TOTAL	380	5,708	1,741	19,468	38,004	26,136	91,437	89,100	+ 2.6
MIN	0	173	60	468	1,263	575	2,591	2,800	- 14.0
MAX	37	312	85	1,106	1,780	1,670	4,745	4,500	+ 22.4
MEAN	16	238	73	811	1,584	1,089	3,810	3,713	+ 2.7

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Table 4.7 i

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
Non-normalized at the Gross Generation Level

September 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	30	219	57	483	1,291	528	2,608	2,400	+ 8.7
2	30	206	62	500	1,218	452	2,469	2,400	+ 2.9
3	30	182	62	475	1,200	480	2,429	2,400	+ 1.2
4	30	184	59	475	1,181	520	2,449	2,400	+ 2.1
5	30	186	60	481	1,188	525	2,471	2,500	- 1.2
6	25	182	60	506	1,208	828	2,811	3,100	- 9.3
7	0	204	59	778	1,331	720	3,091	3,600	- 14.1
8	0	224	69	1,102	1,344	878	3,617	3,500	+ 3.3
9	0	243	74	1,263	1,396	906	3,880	3,700	+ 4.9
10	0	286	75	1,237	1,429	1,216	4,243	4,200	+ 1.0
11	0	292	81	1,253	1,458	1,034	4,119	4,300	- 4.2
12	0	309	84	1,279	1,473	879	4,024	4,300	- 6.4
13	0	310	76	1,291	1,480	1,186	4,343	4,100	+ 5.9
14	0	324	86	1,319	1,421	1,084	4,234	3,900	+ 8.6
15	0	326	85	1,262	1,490	973	4,135	4,100	+ 0.9
16	0	318	88	1,143	1,400	1,135	4,084	4,100	- 0.4
17	0	301	84	1,135	1,553	947	4,022	4,200	- 4.2
18	0	274	82	1,041	1,515	850	3,763	4,300	- 12.5
19	3	275	73	854	1,502	1,105	3,813	4,800	- 20.6
20	30	271	73	806	1,547	1,352	4,079	4,400	- 7.3
21	30	273	70	801	1,506	1,237	3,917	4,100	- 4.5
22	30	242	66	772	1,440	1,002	3,553	3,900	- 8.9
23	30	203	64	778	1,399	763	3,237	3,200	+ 1.1
24	30	220	64	640	1,359	563	2,876	3,100	- 7.2
TOTAL	333	6,053	1,712	21,675	33,331	21,162	84,266	87,000	- 3.1
MIN	0	182	57	475	1,181	452	2,429	2,400	- 20.6
MAX	30	326	88	1,319	1,553	1,352	4,343	4,800	+ 8.7
MEAN	14	252	71	903	1,389	882	3,511	3,625	- 2.5

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Table 4.7 j

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
Non-normalized at the Gross Generation Level

October 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	26	214	55	572	1,359	496	2,721	2,800	- 2.8
2	26	219	57	579	1,295	485	2,662	2,600	+ 2.4
3	26	207	59	520	1,273	648	2,732	2,600	+ 5.1
4	26	180	60	487	1,273	565	2,591	2,600	- 0.4
5	26	179	60	465	1,292	618	2,641	2,800	- 5.7
6	25	182	57	487	1,313	629	2,692	3,400	- 20.8
7	0	192	57	589	1,418	903	3,158	3,800	- 16.9
8	0	209	70	1,023	1,445	1,178	3,925	3,700	+ 6.1
9	0	205	70	1,188	1,563	1,045	4,070	3,700	+ 10.0
10	0	276	75	1,250	1,606	1,316	4,522	3,800	+ 19.0
11	0	320	77	1,146	1,637	847	4,027	4,100	- 1.8
12	0	327	81	1,088	1,644	888	4,027	3,900	+ 3.3
13	0	305	74	1,063	1,636	1,140	4,217	3,900	+ 8.1
14	0	301	81	1,107	1,648	902	4,038	4,100	- 1.5
15	0	296	78	1,007	1,704	1,132	4,216	4,100	+ 2.8
16	0	284	82	971	1,727	944	4,009	4,200	- 4.5
17	0	243	79	964	1,686	1,171	4,144	4,400	- 5.8
18	0	255	74	926	1,655	1,427	4,337	4,500	- 3.6
19	14	272	65	710	1,693	1,396	4,149	4,500	- 7.8
20	26	244	66	567	1,689	1,964	4,556	4,100	+ 11.1
21	26	208	66	533	1,629	1,399	3,862	3,900	- 1.0
22	26	234	63	497	1,599	1,217	3,635	3,500	+ 3.8
23	26	222	58	613	1,499	888	3,307	3,100	+ 6.7
24	26	219	60	484	1,401	682	2,872	2,900	- 1.0
TOTAL	296	5,792	1,625	18,835	36,682	23,879	87,111	87,000	+ 0.1
MIN	0	179	55	465	1,273	485	2,591	2,600	- 20.8
MAX	26	327	82	1,250	1,727	1,964	4,556	4,500	+ 19.0
MEAN	12	241	68	785	1,528	995	3,630	3,625	+ 0.2

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Table 4.7 k
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 Non-normalized at the Gross Generation Level
 November 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	32	197	60	463	1,311	766	2,829	2,600	+ 8.8
2	32	194	63	462	1,301	565	2,618	2,500	+ 4.7
3	32	196	65	438	1,279	639	2,649	2,500	+ 6.0
4	32	193	65	447	1,258	591	2,586	2,500	+ 3.4
5	32	187	65	462	1,280	733	2,759	2,700	+ 2.2
6	32	194	60	583	1,370	659	2,900	3,000	- 3.3
7	7	189	59	745	1,428	673	3,101	3,600	- 13.9
8	0	193	64	850	1,505	983	3,595	3,800	- 5.4
9	0	186	67	845	1,533	1,663	4,294	4,000	+ 7.4
10	0	182	66	868	1,607	1,463	4,185	4,500	- 7.0
11	0	185	66	892	1,666	1,313	4,122	4,600	- 10.4
12	0	192	71	877	1,640	1,157	3,937	4,100	- 4.0
13	0	193	64	922	1,614	1,393	4,187	4,300	- 2.6
14	0	206	66	909	1,682	1,553	4,415	4,300	+ 2.7
15	0	204	66	906	1,692	1,432	4,301	4,400	- 2.3
16	0	209	66	890	1,755	1,270	4,190	4,500	- 6.9
17	0	208	66	896	1,760	1,454	4,385	4,500	- 2.6
18	0	245	61	879	1,762	1,650	4,597	4,600	- 0.1
19	26	248	60	685	1,792	1,173	3,984	4,200	- 5.1
20	32	211	64	598	1,748	1,159	3,813	4,000	- 4.7
21	32	202	62	574	1,707	1,418	3,996	3,800	+ 5.2
22	32	199	60	523	1,626	1,611	4,052	3,600	+ 12.6
23	32	195	62	498	1,484	1,206	3,477	3,100	+ 12.2
24	32	188	57	458	1,367	967	3,070	3,100	- 1.0
TOTAL	388	4,797	1,525	16,674	37,168	27,492	88,043	88,800	- 0.9
MIN	0	182	57	438	1,258	565	2,586	2,500	- 13.9
MAX	32	248	71	922	1,792	1,663	4,597	4,600	+ 12.6
MEAN	16	200	64	695	1,549	1,145	3,668	3,700	- 0.2

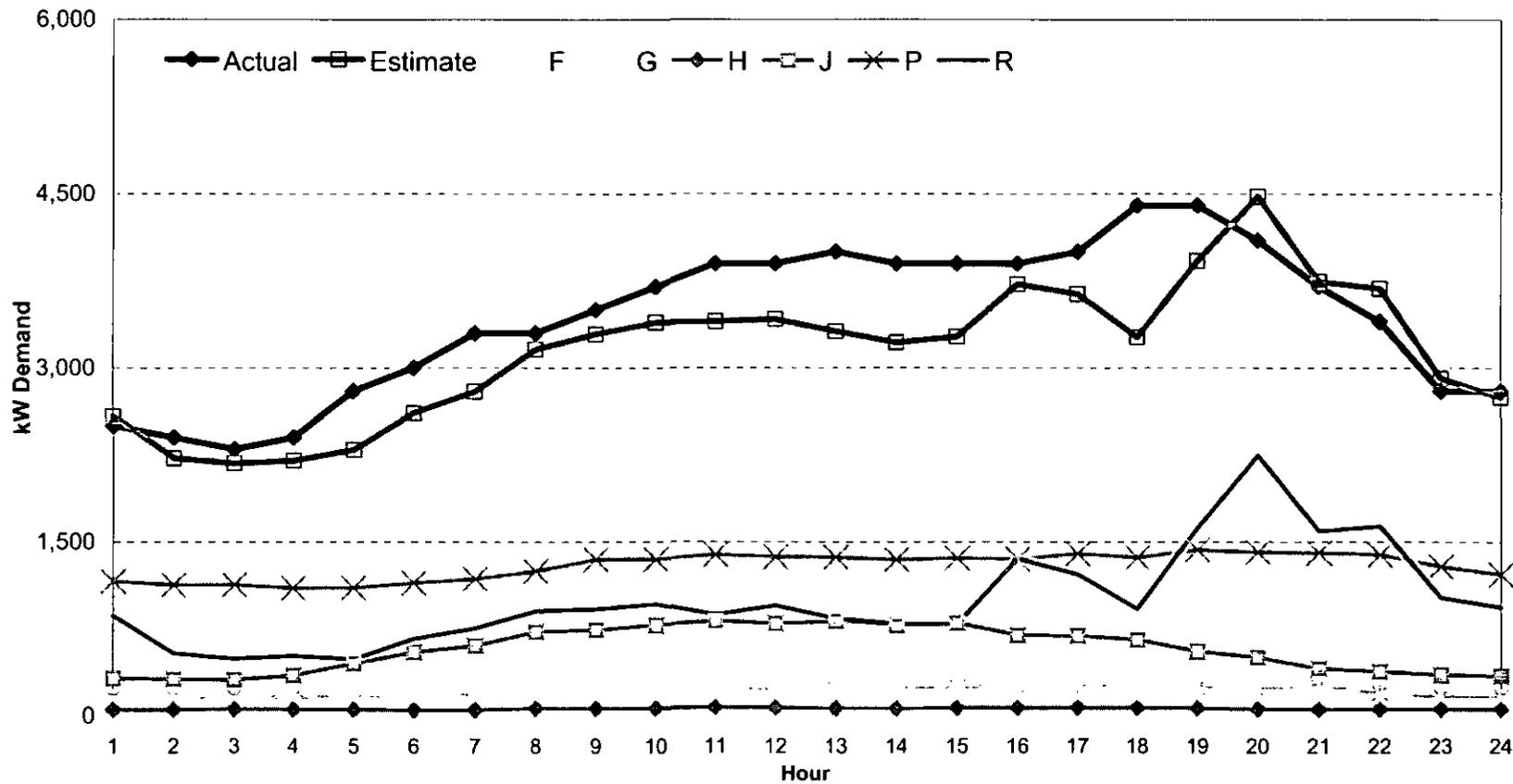
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Table 4.7 I
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE SYSTEM PEAK
 Non-normalized at the Gross Generation Level
 December 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	25	184	57	466	1,377	553	2,662	2,600	+ 2.4
2	25	194	56	461	1,328	549	2,613	2,600	+ 0.5
3	25	193	58	453	1,318	558	2,604	2,500	+ 4.2
4	25	185	57	458	1,329	567	2,621	2,600	+ 0.8
5	25	206	54	544	1,326	472	2,626	2,700	- 2.7
6	25	229	56	613	1,386	610	2,919	3,100	- 5.8
7	13	222	59	737	1,499	799	3,328	3,300	+ 0.9
8	0	242	63	787	1,537	938	3,566	3,600	- 0.9
9	0	230	68	900	1,675	952	3,825	3,700	+ 3.4
10	0	257	72	940	1,721	1,086	4,076	4,100	- 0.6
11	0	285	71	986	1,680	964	3,986	4,000	- 0.3
12	0	274	77	1,007	1,677	960	3,996	4,000	- 0.1
13	0	275	76	990	1,691	1,164	4,195	4,100	+ 2.3
14	0	287	69	1,012	1,754	935	4,056	4,000	+ 1.4
15	0	289	73	1,022	1,774	954	4,112	4,200	- 2.1
16	0	286	76	1,048	1,825	1,086	4,320	4,300	+ 0.5
17	0	244	71	1,036	1,847	1,035	4,234	4,400	- 3.8
18	0	267	70	1,001	1,845	1,343	4,527	4,900	- 7.6
19	19	265	71	827	1,884	1,248	4,312	4,700	- 8.2
20	25	257	63	773	1,856	1,295	4,270	4,200	+ 1.7
21	25	230	62	716	1,804	1,135	3,973	4,100	- 3.1
22	25	235	60	615	1,752	1,045	3,733	3,500	+ 6.6
23	25	204	57	550	1,607	916	3,358	3,200	+ 5.0
24	25	226	58	489	1,464	993	3,256	3,000	+ 8.5
TOTAL	310	5,767	1,551	18,432	38,955	22,155	87,170	87,400	- 0.3
MIN	0	184	54	453	1,318	472	2,604	2,500	- 8.2
MAX	25	289	77	1,048	1,884	1,343	4,527	4,900	+ 8.5
MEAN	13	240	65	768	1,623	923	3,632	3,642	+ 0.1

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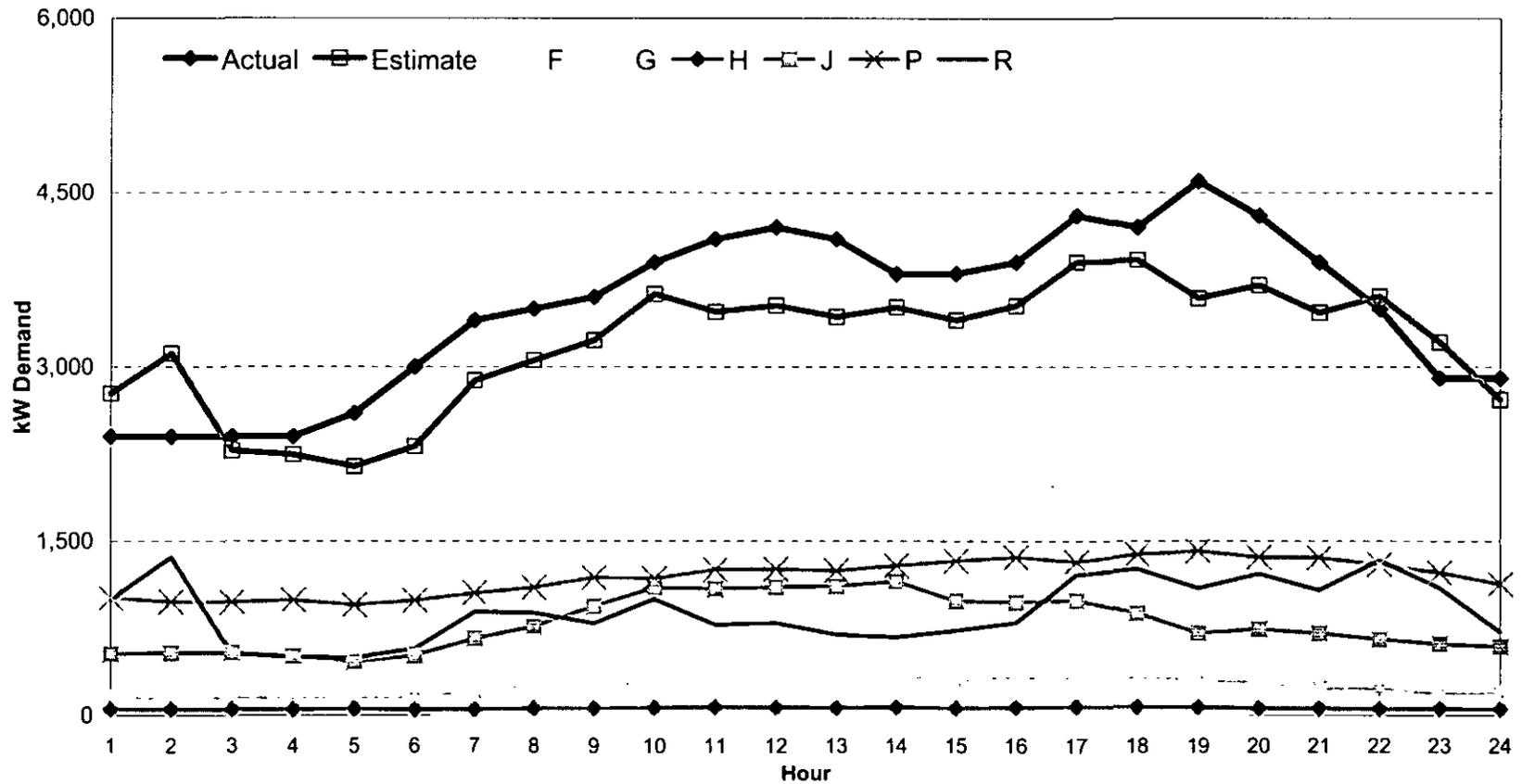
Exhibit 4.6 a
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 January 2005



The sample estimate is at the sales level, and not normalized.

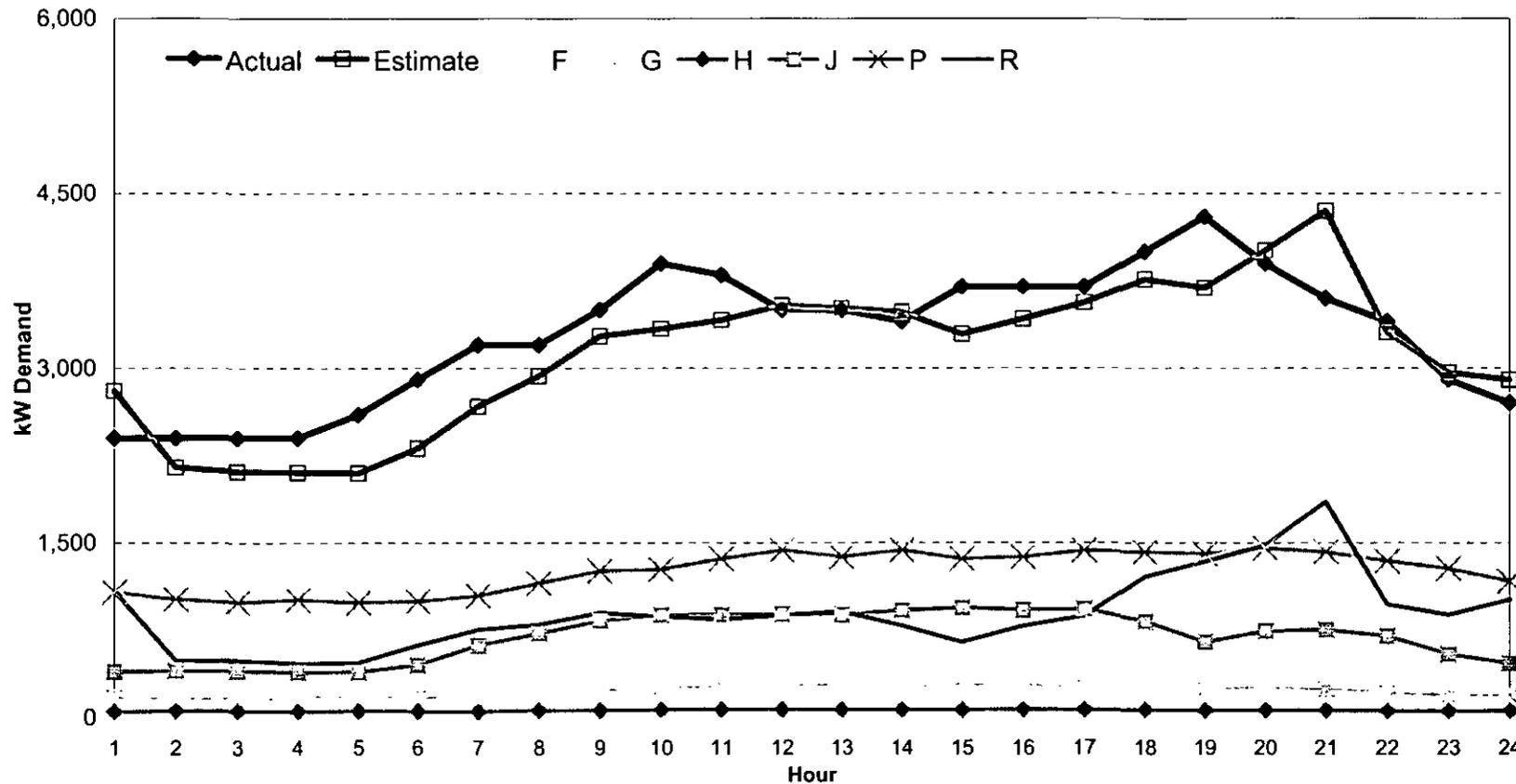
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Exhibit 4.6 b
TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 February 2005



The sample estimate is at the sales level, and not normalized.

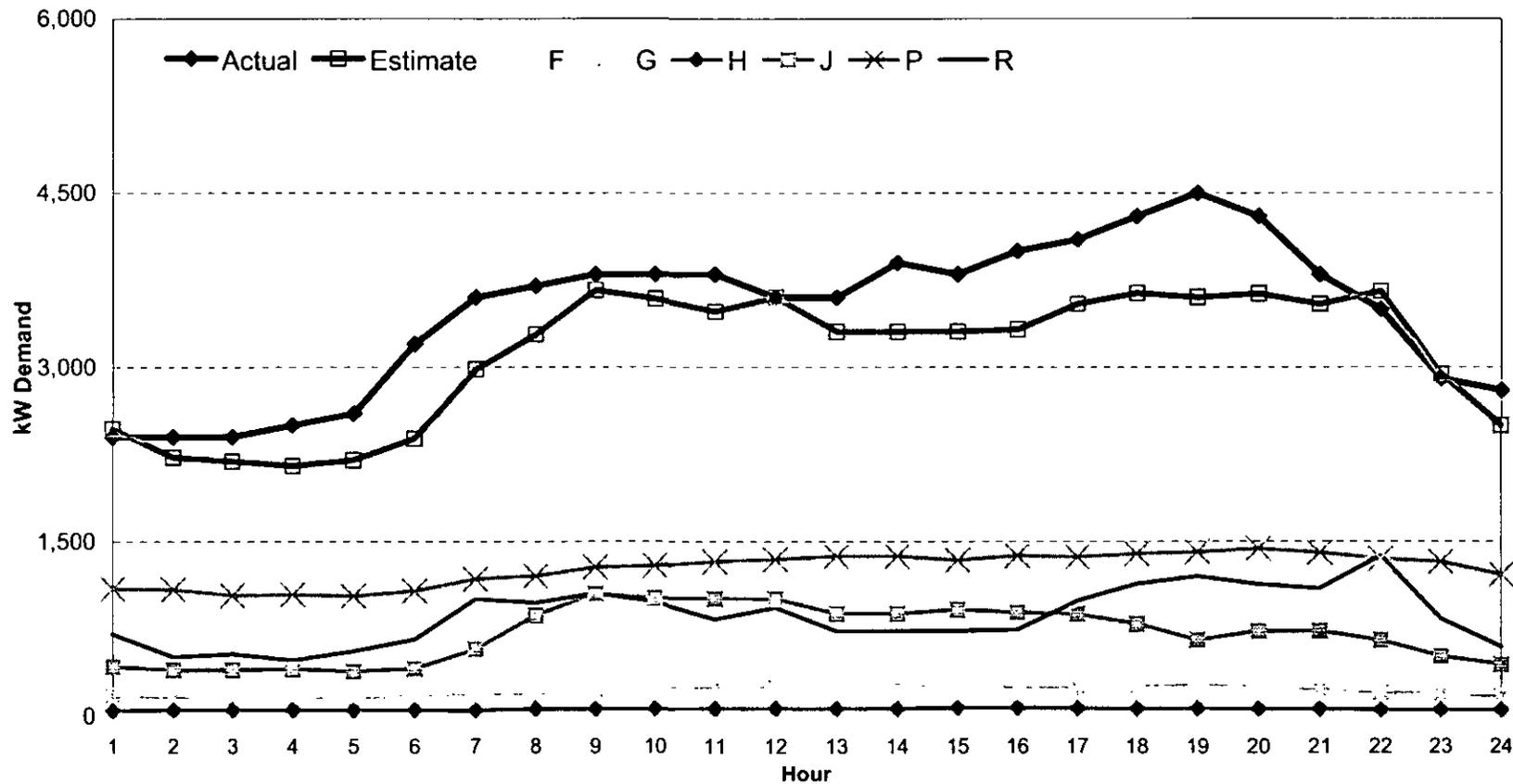
Exhibit 4.6 c
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 March 2005



The sample estimate is at the sales level, and not normalized.

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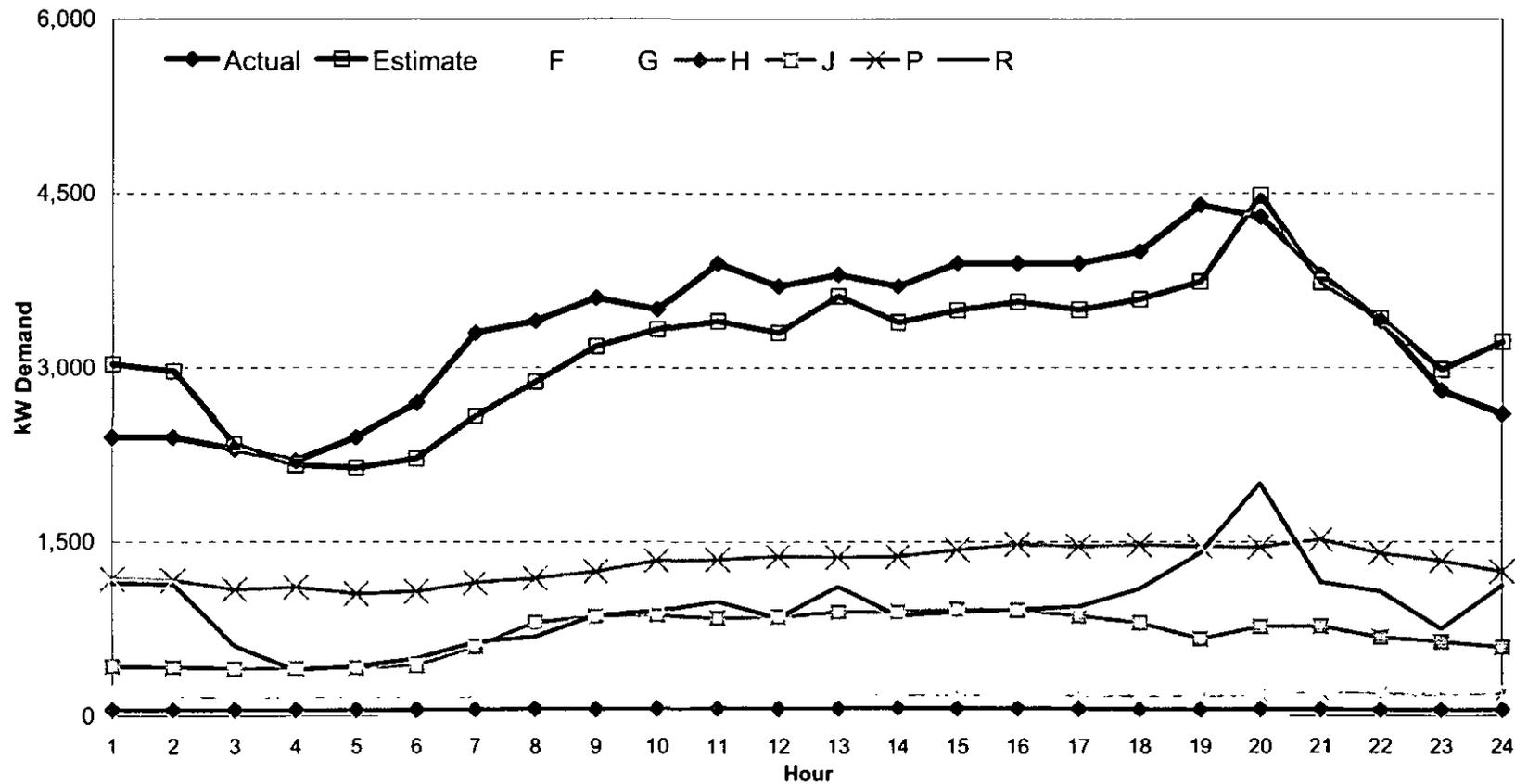
Exhibit 4.6 d
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 April 2005



The sample estimate is at the sales level, and not normalized.

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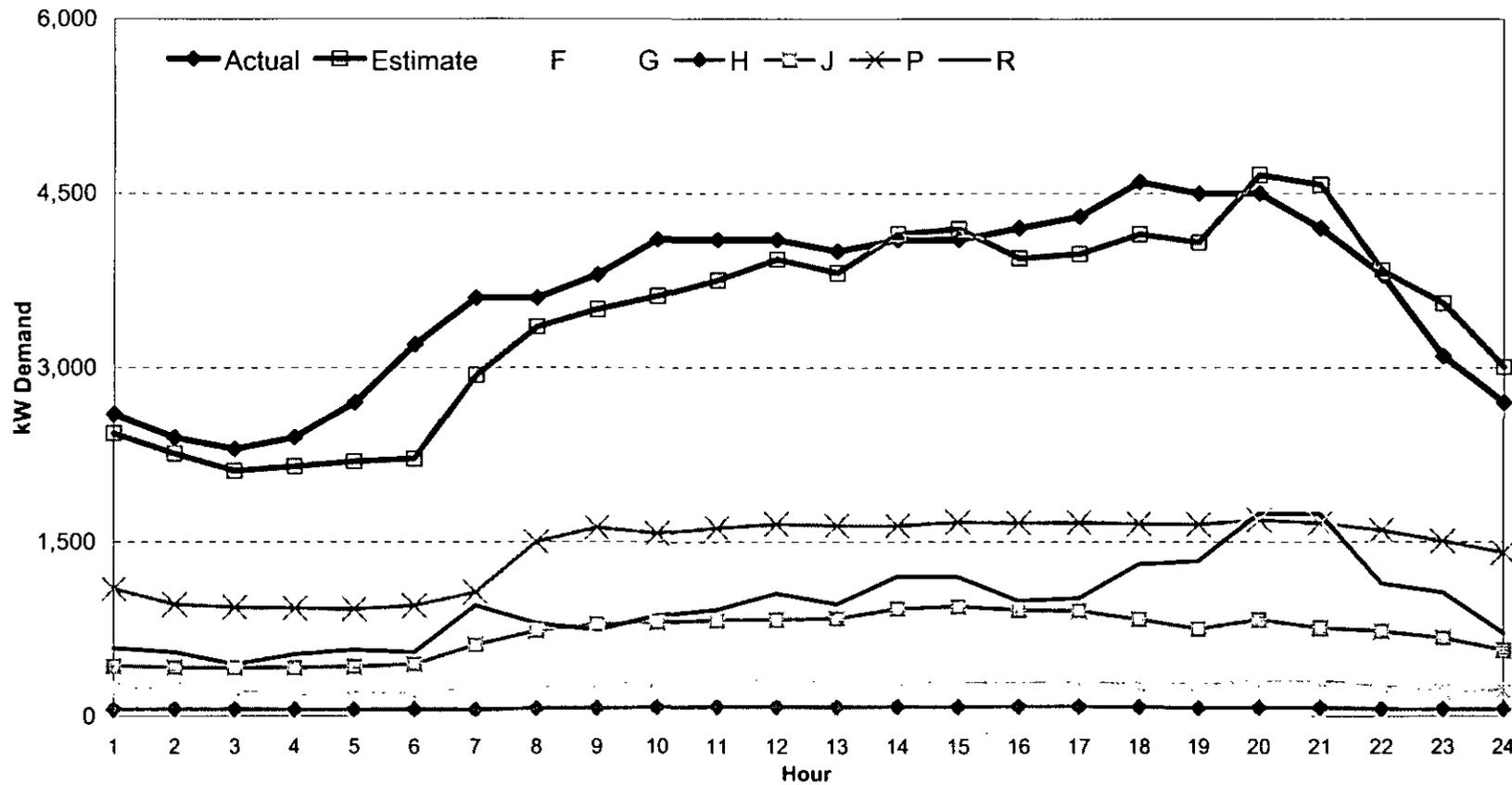
Exhibit 4.6 e
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 May 2005



The sample estimate is at the sales level, and not normalized.

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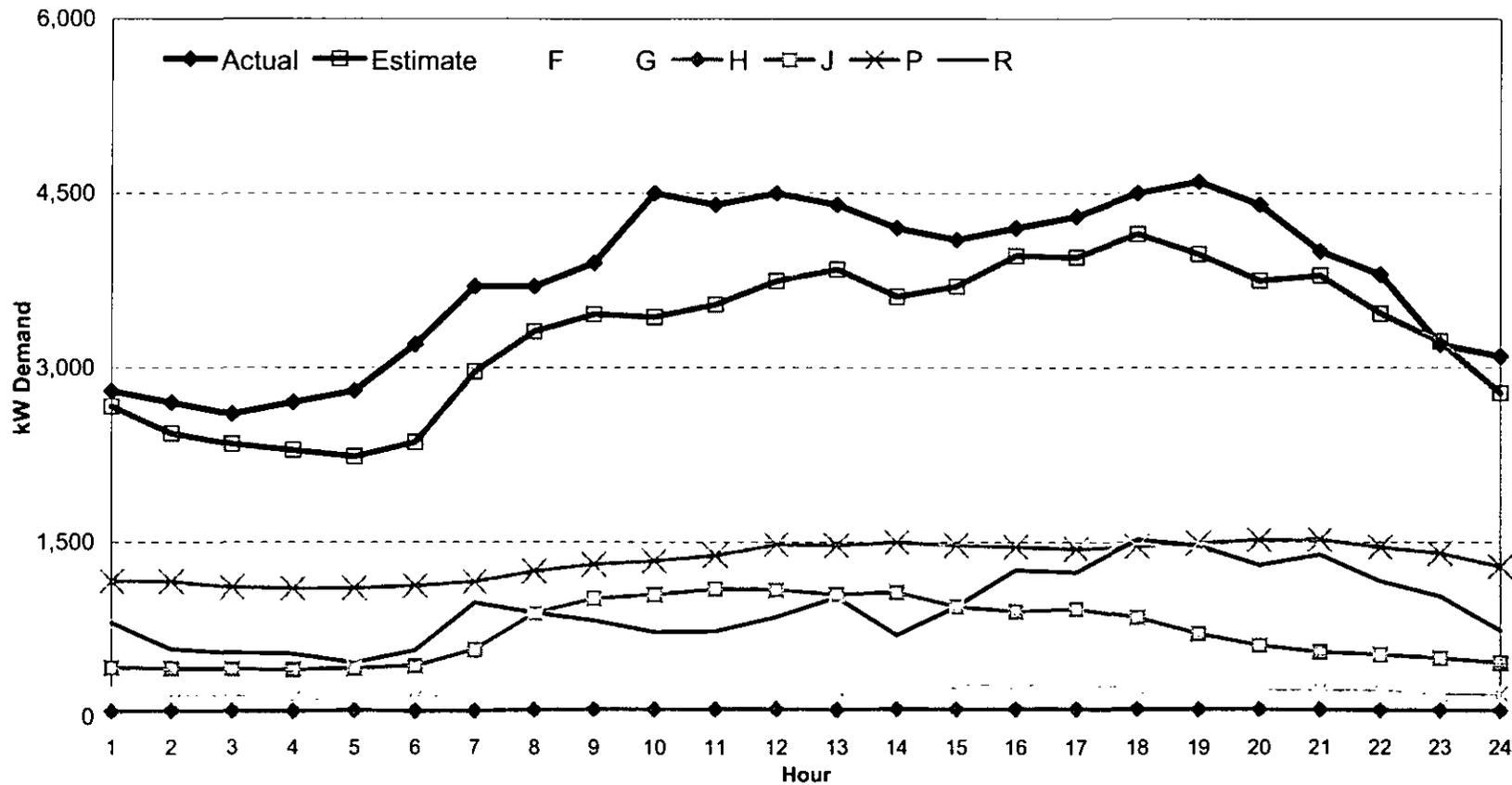
Exhibit 4.6 f
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 June 2005



The sample estimate is at the sales level, and not normalized.

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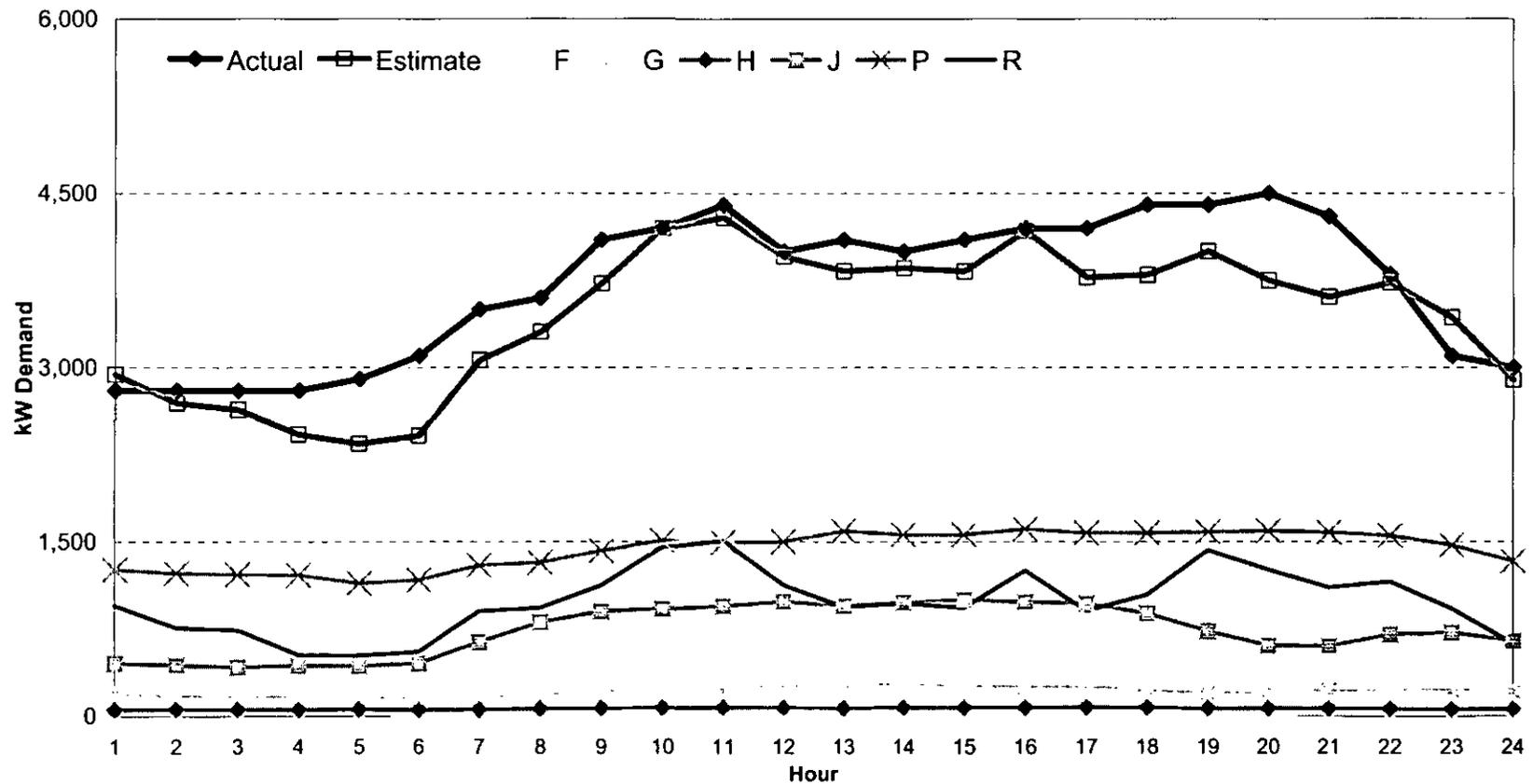
Exhibit 4.6 g
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 July 2005



The sample estimate is at the sales level, and not normalized.

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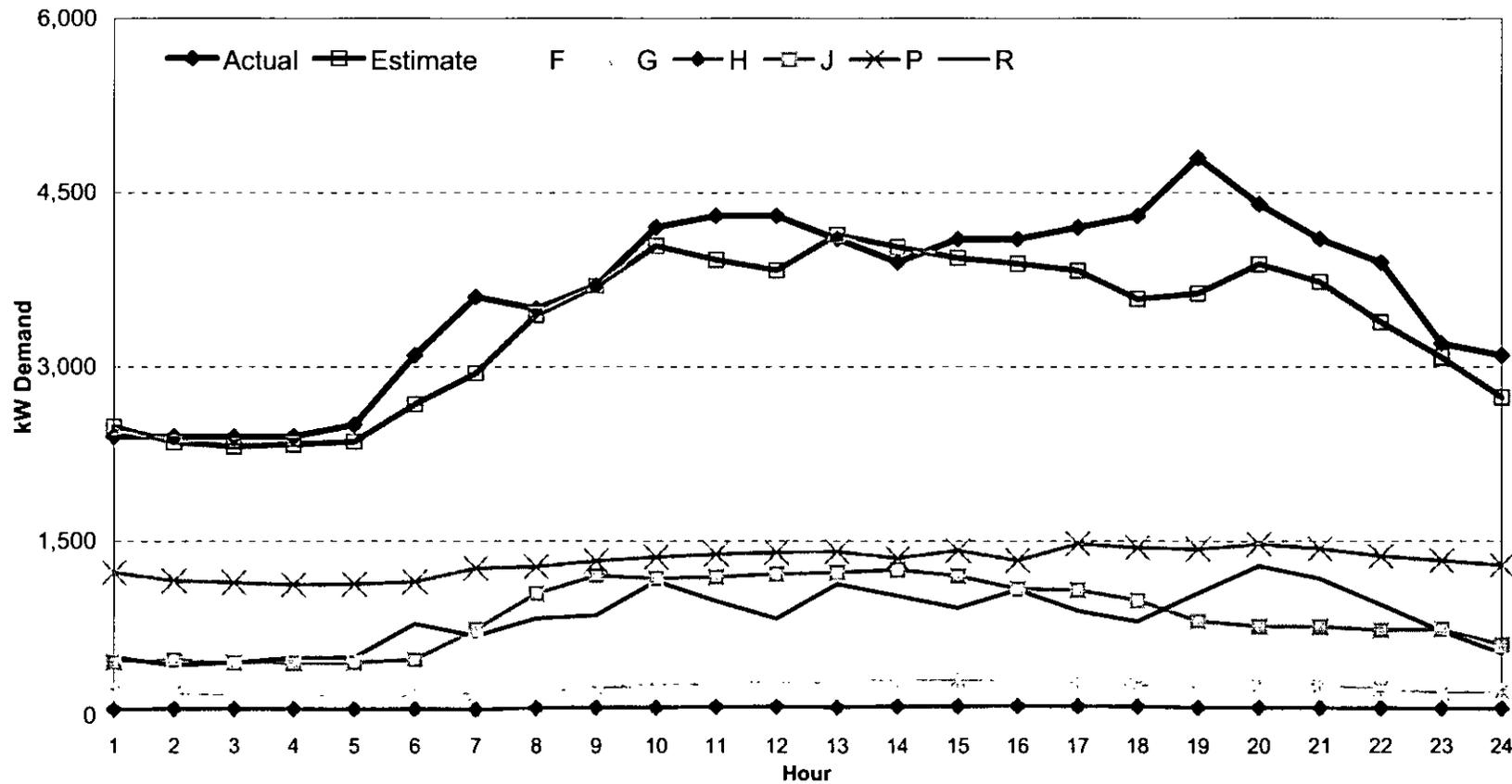
Exhibit 4.6 h
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 August 2005



The sample estimate is at the sales level, and not normalized.

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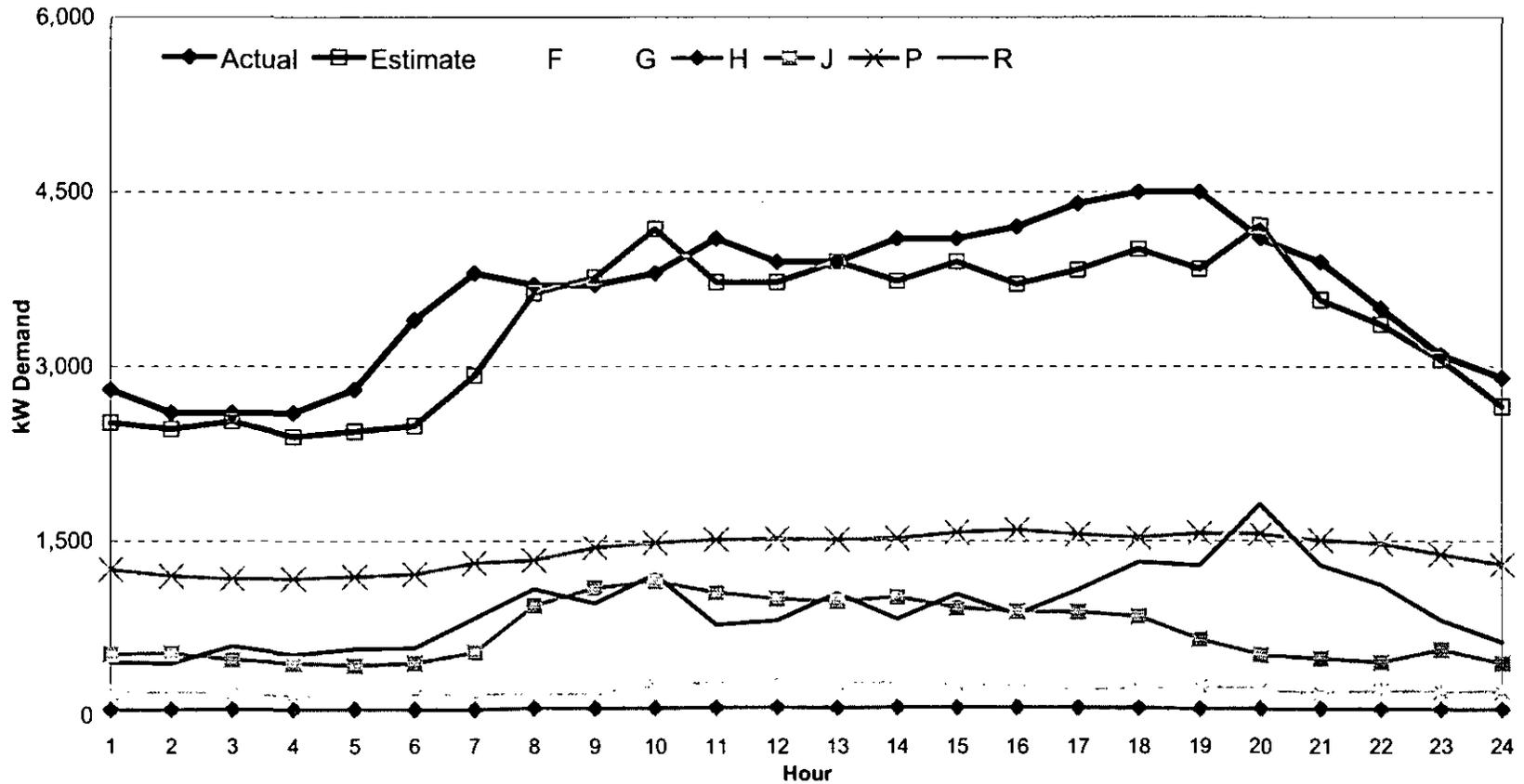
Exhibit 4.6 i
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 September 2005



The sample estimate is at the sales level, and not normalized.

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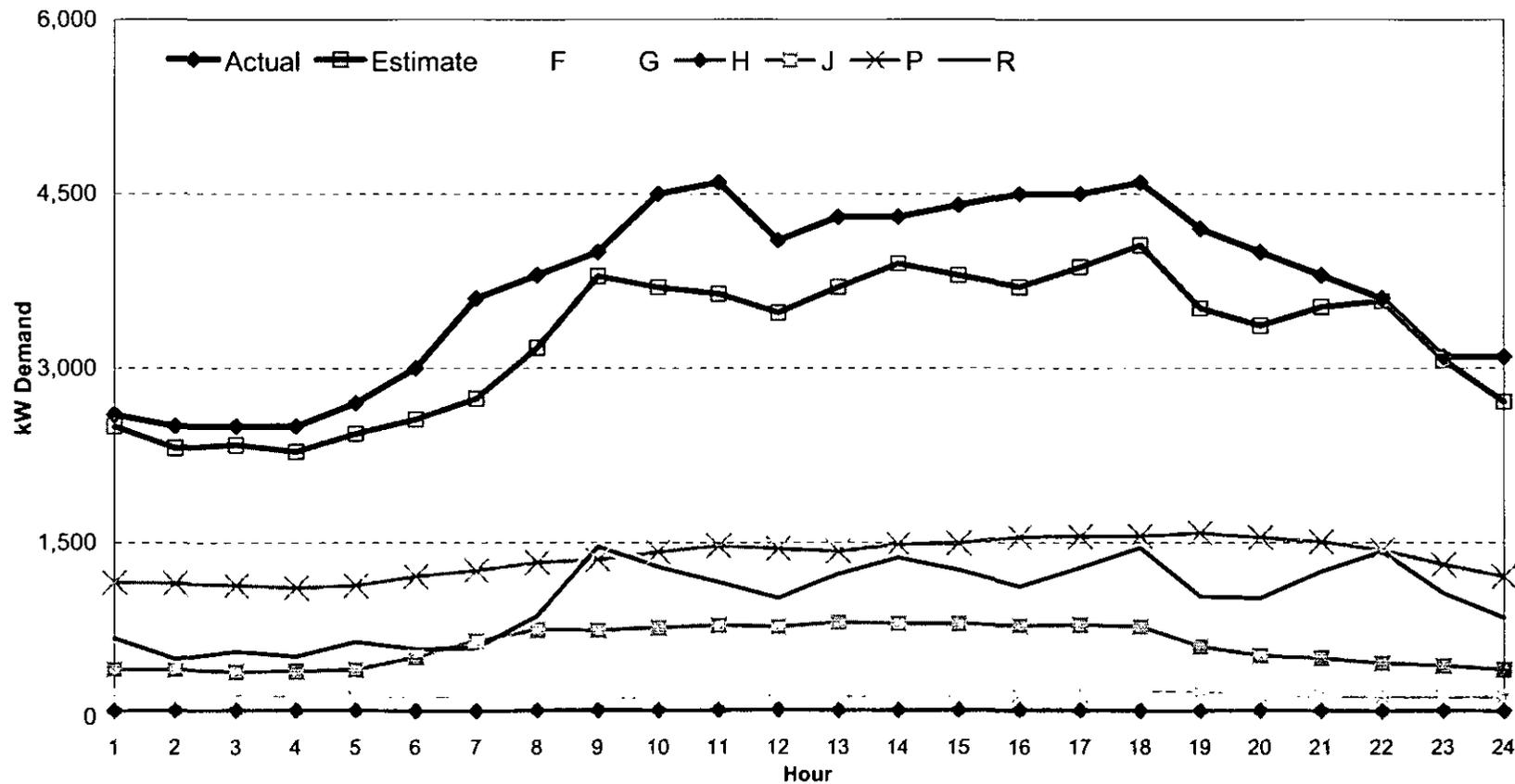
Exhibit 4.6 j
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 October 2005



The sample estimate is at the sales level, and not normalized.

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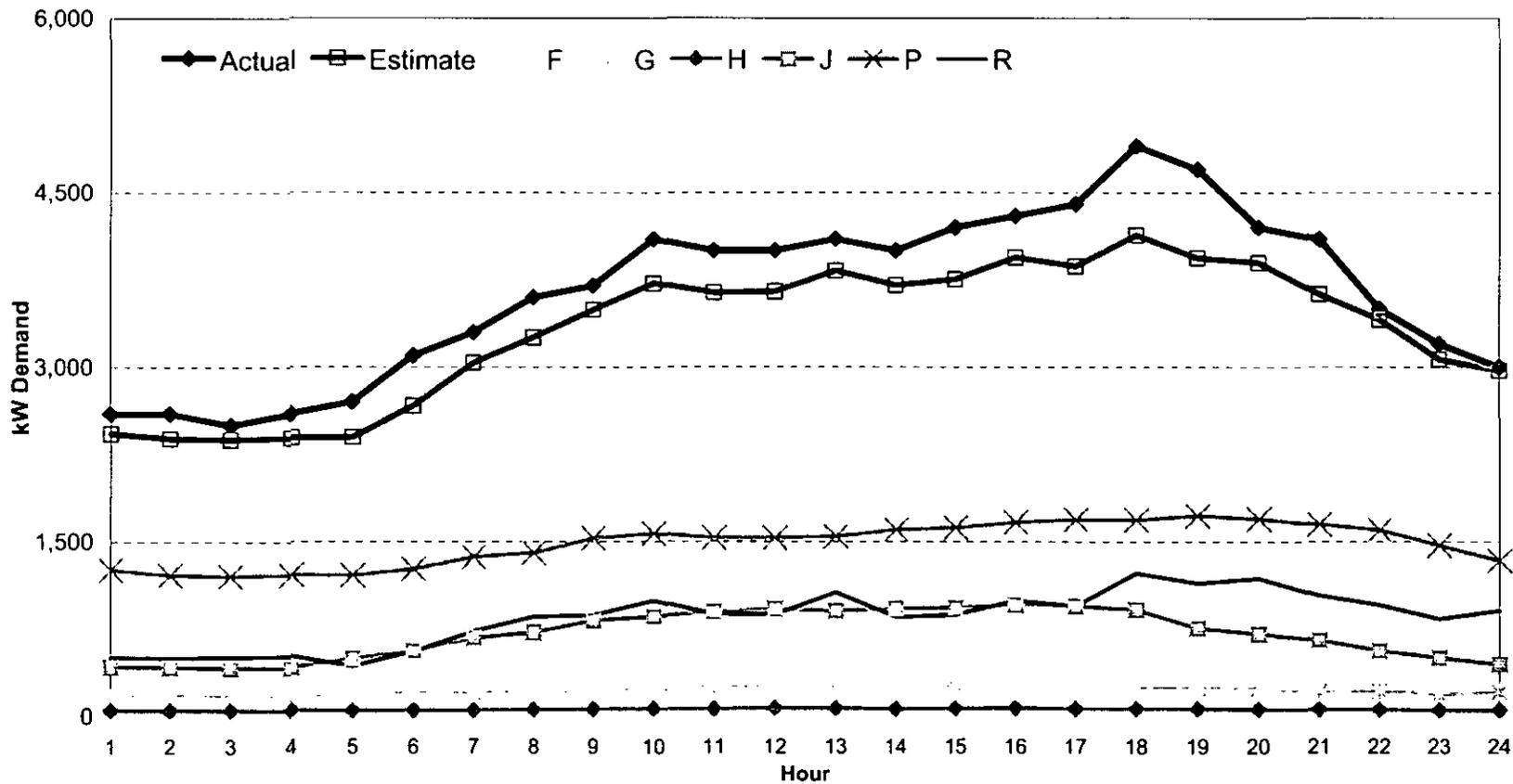
Exhibit 4.6 k
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 November 2005



The sample estimate is at the sales level, and not normalized.

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Exhibit 4.6 I
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE SYSTEM PEAK
 Actual vs Sample Estimate
 December 2005



The sample estimate is at the sales level, and not normalized.

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Table 4.8 a
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 January 2005

HOUR	F	G	H	J	P	R	System Total
1	21	163	57	301	1,348	810	2,700
2	19	148	58	283	1,143	749	2,400
3	20	159	58	292	1,160	612	2,300
4	21	172	56	311	1,143	597	2,300
5	22	190	59	331	1,180	619	2,400
6	22	179	57	438	1,214	690	2,600
7	17	215	71	625	1,438	833	3,200
8	0	208	72	728	1,588	1,004	3,600
9	0	197	65	721	1,684	1,032	3,700
10	0	227	68	710	1,688	1,408	4,100
11	0	200	74	736	1,773	1,317	4,100
12	0	202	71	741	1,823	1,164	4,000
13	0	255	67	723	1,737	1,019	3,800
14	0	279	65	726	1,657	1,172	3,900
15	0	249	56	633	1,648	1,214	3,800
16	0	227	53	604	1,614	1,302	3,800
17	0	283	65	682	1,633	1,138	3,800
18	0	241	58	574	1,551	1,376	3,800
19	10	192	52	468	1,403	1,575	3,700
20	24	221	60	464	1,635	1,296	3,700
21	22	223	58	416	1,531	1,150	3,400
22	18	154	44	320	1,175	1,389	3,100
23	19	154	49	311	1,230	1,138	2,900
24	20	160	48	300	1,147	1,125	2,800
TOTAL	254	4,899	1,442	12,436	35,140	25,728	79,900
MIN	0	148	44	283	1,143	597	2,300
MAX	24	283	74	741	1,823	1,575	4,100
MEAN	11	204	60	518	1,464	1,072	3,329

The instantaneous system daytime peak of 4.350 MW occurred on January 1, 2005 @ 11:25.

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Table 4.8 b
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 February 2005

HOUR	F	G	H	J	P	R	System Total
1	29	136	45	457	873	860	2,400
2	26	118	42	414	753	1,047	2,400
3	35	164	55	566	1,027	553	2,400
4	36	162	56	545	1,064	537	2,400
5	41	188	67	556	1,149	600	2,600
6	44	205	63	666	1,280	743	3,000
7	21	253	60	778	1,242	1,047	3,400
8	0	282	69	878	1,260	1,010	3,500
9	0	286	69	1,045	1,320	880	3,600
10	0	319	71	1,177	1,262	1,071	3,900
11	0	343	86	1,281	1,474	916	4,100
12	0	369	85	1,310	1,494	942	4,200
13	0	372	79	1,329	1,489	831	4,100
14	0	357	78	1,245	1,392	729	3,800
15	0	339	69	1,096	1,481	815	3,800
16	0	353	76	1,080	1,507	883	3,900
17	0	341	84	1,091	1,454	1,330	4,300
18	0	353	79	941	1,480	1,347	4,200
19	7	391	91	903	1,809	1,399	4,600
20	39	332	73	863	1,580	1,413	4,300
21	38	260	67	795	1,527	1,212	3,900
22	33	210	55	639	1,265	1,298	3,500
23	30	167	52	554	1,108	989	2,900
24	36	200	58	631	1,207	768	2,900
TOTAL	416	6,498	1,628	20,841	31,498	23,220	84,100
MIN	0	118	42	414	753	537	2,400
MAX	44	391	91	1,329	1,809	1,413	4,600
MEAN	17	271	68	868	1,312	968	3,504

The instantaneous system daytime peak of 4.350 MW occurred on February 24, 2005 @ 11:55.

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Table 4.8 c
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 March 2005

HOUR	F	G	H	J	P	R	System Total
1	29	211	56	445	1,121	638	2,500
2	30	190	57	444	1,112	566	2,400
3	29	201	59	428	1,063	620	2,400
4	32	207	64	469	1,149	479	2,400
5	36	210	71	506	1,266	612	2,700
6	40	232	77	674	1,466	710	3,200
7	6	254	66	822	1,347	1,005	3,500
8	0	289	66	1,212	1,282	951	3,800
9	0	285	67	1,330	1,288	929	3,900
10	0	326	77	1,390	1,419	888	4,100
11	0	329	90	1,440	1,588	854	4,300
12	0	318	90	1,281	1,612	898	4,200
13	0	331	81	1,317	1,679	891	4,300
14	0	321	71	1,138	1,491	679	3,700
15	0	332	71	1,033	1,513	851	3,800
16	0	322	77	944	1,518	1,039	3,900
17	0	318	76	957	1,484	966	3,800
18	0	304	78	916	1,576	1,126	4,000
19	0	312	68	733	1,546	1,740	4,400
20	25	281	58	771	1,406	1,659	4,200
21	26	278	58	744	1,398	1,396	3,900
22	25	251	54	655	1,305	1,211	3,500
23	23	183	50	613	1,118	714	2,700
24	24	164	52	601	1,094	665	2,600
TOTAL	323	6,450	1,636	20,863	32,839	22,088	84,200
MIN	0	164	50	428	1,063	479	2,400
MAX	40	332	90	1,440	1,679	1,740	4,400
MEAN	13	269	68	869	1,368	920	3,508

The instantaneous system daytime peak of 4.525 MW occurred on March 8, 2005 @ 11:32.

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Table 4.8 d
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 April 2005

HOUR	F	G	H	J	P	R	System Total
1	23	117	40	302	963	1,155	2,600
2	29	161	56	397	1,237	720	2,600
3	34	165	62	442	1,390	507	2,600
4	33	179	58	448	1,305	577	2,600
5	35	188	62	458	1,408	650	2,800
6	27	198	69	527	1,530	849	3,200
7	0	197	61	771	1,577	995	3,600
8	0	211	63	919	1,584	1,023	3,800
9	0	221	65	986	1,606	922	3,800
10	0	304	69	1,044	1,660	924	4,000
11	0	288	74	1,082	1,737	819	4,000
12	0	286	79	1,102	1,686	947	4,100
13	0	313	80	1,092	1,753	862	4,100
14	0	300	78	1,021	1,655	746	3,800
15	0	279	73	994	1,688	867	3,900
16	0	249	67	894	1,662	927	3,800
17	0	273	72	988	1,760	807	3,900
18	0	223	61	851	1,575	1,090	3,800
19	0	257	69	842	1,807	1,225	4,200
20	20	219	51	567	1,420	1,723	4,000
21	27	239	59	592	1,497	1,186	3,600
22	27	169	53	546	1,474	1,231	3,500
23	21	116	37	367	1,081	1,179	2,800
24	29	158	55	453	1,332	674	2,700
TOTAL	305	5,308	1,512	17,682	36,389	22,604	83,800
MIN	0	116	37	302	963	507	2,600
MAX	35	313	80	1,102	1,807	1,723	4,200
MEAN	13	221	63	737	1,516	942	3,492

The instantaneous system daytime peak of 4.380 MW occurred on April 20, 2005 @ 10:42.

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Table 4.8 e
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 May 2005

HOUR	F	G	H	J	P	R	System Total
1	33	163	52	433	1,111	1,009	2,800
2	34	175	54	433	1,096	1,007	2,800
3	40	229	62	499	1,289	580	2,700
4	42	215	65	556	1,337	585	2,800
5	45	212	69	587	1,391	596	2,900
6	20	232	72	678	1,500	898	3,400
7	0	297	73	971	1,557	1,002	3,900
8	0	253	60	1,074	1,319	894	3,600
9	0	239	60	1,078	1,230	1,093	3,700
10	0	252	65	1,164	1,418	1,101	4,000
11	0	299	77	1,242	1,581	1,101	4,300
12	0	336	85	1,296	1,638	944	4,300
13	0	336	80	1,337	1,748	899	4,400
14	0	307	76	1,195	1,592	930	4,100
15	0	303	77	1,138	1,664	818	4,000
16	0	276	72	966	1,542	844	3,700
17	0	293	71	931	1,494	1,211	4,000
18	0	290	73	895	1,563	1,279	4,100
19	0	271	74	757	1,564	1,434	4,100
20	23	285	68	663	1,567	1,294	3,900
21	39	302	67	654	1,617	1,021	3,700
22	35	233	59	570	1,428	1,174	3,500
23	32	173	52	497	1,266	880	2,900
24	34	183	53	514	1,303	613	2,700
TOTAL	378	6,155	1,617	20,129	34,817	23,206	86,300
MIN	0	163	52	433	1,096	580	2,700
MAX	45	336	85	1,337	1,748	1,434	4,400
MEAN	16	256	67	839	1,451	967	3,596

The instantaneous system daytime peak of 4.520 MW occurred on May 18, 2005 @ 11:11.

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Table 4.8 f
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
June 2005

HOUR	F	G	H	J	P	R	System Total
1	27	176	53	376	1,131	1,037	2,800
2	33	205	66	436	1,376	684	2,800
3	33	187	62	421	1,312	686	2,700
4	37	203	68	458	1,405	529	2,700
5	39	208	77	498	1,479	699	3,000
6	15	218	73	546	1,546	802	3,200
7	0	221	71	752	1,597	959	3,600
8	0	247	78	913	1,594	967	3,800
9	0	236	75	988	1,547	1,054	3,900
10	0	293	88	1,226	1,794	1,099	4,500
11	0	325	99	1,232	1,874	870	4,400
12	0	338	100	1,238	1,893	932	4,500
13	0	346	94	1,213	1,976	871	4,500
14	0	307	87	1,123	1,715	968	4,200
15	0	311	84	1,008	1,820	976	4,200
16	0	312	98	1,071	1,994	824	4,300
17	0	311	98	979	1,949	963	4,300
18	0	321	93	968	2,020	998	4,400
19	0	279	89	834	1,950	1,147	4,300
20	13	216	67	602	1,617	1,686	4,200
21	28	229	60	484	1,483	1,717	4,000
22	28	218	57	464	1,467	1,365	3,600
23	26	172	51	431	1,353	1,166	3,200
24	31	210	60	494	1,365	741	2,900
TOTAL	309	6,091	1,848	18,756	39,257	23,739	90,000
MIN	0	172	51	376	1,131	529	2,700
MAX	39	346	100	1,238	2,020	1,717	4,500
MEAN	13	254	77	781	1,636	989	3,750

The instantaneous system daytime peak of 4.600 MW occurred on June 13, 2005 @ 11:56.

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Table 4.8 g

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
July 2005

HOUR	F	G	H	J	P	R	System Total
1	31	205	51	443	1,223	847	2,800
2	32	217	60	460	1,287	643	2,700
3	32	208	58	457	1,235	610	2,600
4	34	189	61	478	1,300	637	2,700
5	37	199	71	526	1,385	584	2,800
6	20	217	70	595	1,525	773	3,200
7	0	245	65	722	1,447	1,221	3,700
8	0	245	70	992	1,396	997	3,700
9	0	272	75	1,146	1,475	932	3,900
10	0	334	86	1,375	1,753	953	4,500
11	0	321	86	1,362	1,718	913	4,400
12	0	302	81	1,310	1,776	1,031	4,500
13	0	274	71	1,200	1,682	1,173	4,400
14	0	315	82	1,246	1,741	816	4,200
15	0	301	74	1,048	1,630	1,048	4,100
16	0	289	73	958	1,546	1,335	4,200
17	0	298	77	1,008	1,567	1,350	4,300
18	0	266	75	926	1,584	1,649	4,500
19	0	273	77	824	1,725	1,701	4,600
20	14	277	77	721	1,781	1,529	4,400
21	31	244	68	587	1,603	1,468	4,000
22	32	249	62	585	1,597	1,276	3,800
23	29	195	56	500	1,393	1,028	3,200
24	33	219	62	520	1,438	828	3,100
TOTAL	325	6,154	1,686	19,988	36,806	25,342	90,300
MIN	0	189	51	443	1,223	584	2,600
MAX	37	334	86	1,375	1,781	1,701	4,600
MEAN	14	256	70	833	1,534	1,056	3,763

The instantaneous system daytime peak of 4.780 MW occurred on July 28, 2005 @ 10:48.

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Table 4.8 h
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
August 2005

HOUR	F	G	H	J	P	R	System Total
1	33	195	54	476	1,276	566	2,600
2	34	176	59	463	1,241	427	2,400
3	35	174	59	452	1,275	404	2,400
4	34	170	56	441	1,210	488	2,400
5	40	195	69	507	1,376	512	2,700
6	28	197	64	575	1,426	710	3,000
7	0	238	64	867	1,464	867	3,500
8	0	224	68	974	1,359	974	3,600
9	0	257	72	1,022	1,481	968	3,800
10	0	277	69	1,160	1,560	1,134	4,200
11	0	299	81	1,268	1,669	1,082	4,400
12	0	302	77	1,195	1,632	795	4,000
13	0	274	62	1,035	1,426	803	3,600
14	0	359	93	1,227	1,138	1,083	3,900
15	0	335	92	1,221	1,383	1,169	4,200
16	0	317	90	1,191	1,434	1,169	4,200
17	0	280	84	1,093	1,439	1,304	4,200
18	0	264	80	1,005	1,824	1,126	4,300
19	0	252	67	773	1,663	1,546	4,300
20	23	248	70	704	1,683	1,373	4,100
21	34	246	65	729	1,666	1,059	3,800
22	34	235	63	637	1,579	1,252	3,800
23	33	202	60	551	1,494	761	3,100
24	36	213	66	559	1,506	620	3,000
TOTAL	365	5,929	1,686	20,124	35,204	22,194	85,500
MIN	0	170	54	441	1,138	404	2,400
MAX	40	359	93	1,268	1,824	1,546	4,400
MEAN	15	247	70	838	1,467	925	3,563

The instantaneous system daytime peak of 4.620 MW occurred on August 10, 2005 @ 11:02.

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Table 4.8 i
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
September 2005

HOUR	F	G	H	J	P	R	System Total
1	31	176	62	542	1,450	740	3,000
2	28	163	61	496	1,283	869	2,900
3	32	183	66	564	1,436	721	3,000
4	30	170	61	526	1,368	845	3,000
5	33	193	69	570	1,506	828	3,200
6	27	196	64	613	1,534	765	3,200
7	0	219	68	883	1,733	897	3,800
8	0	192	71	993	1,516	1,030	3,800
9	0	213	74	1,156	1,528	1,028	4,000
10	0	220	82	1,385	1,647	1,067	4,400
11	0	240	83	1,361	1,620	1,196	4,500
12	0	249	87	1,374	1,640	1,050	4,400
13	0	237	77	1,278	1,573	1,135	4,300
14	0	240	75	1,202	1,466	1,117	4,100
15	0	248	78	1,182	1,587	1,105	4,200
16	0	249	86	1,074	1,726	1,165	4,300
17	0	235	86	1,078	1,695	1,306	4,400
18	0	181	70	941	1,486	1,322	4,000
19	3	224	73	843	1,655	1,202	4,000
20	29	215	73	692	1,643	1,248	3,900
21	28	199	70	696	1,597	1,110	3,700
22	26	161	57	753	1,449	953	3,400
23	25	148	54	698	1,367	807	3,100
24	25	148	51	650	1,258	769	2,900
TOTAL	318	4,899	1,697	21,548	36,763	24,275	89,500
MIN	0	148	51	496	1,258	721	2,900
MAX	33	249	87	1,385	1,733	1,322	4,500
MEAN	13	204	71	898	1,532	1,011	3,729

The instantaneous system daytime peak of 4.620 MW occurred on September 24, 2005 @ 11:25.

Table 4.8 j
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
October 2005

HOUR	F	G	H	J	P	R	System Total
1	25	218	55	580	1,337	685	2,900
2	25	218	60	556	1,321	721	2,900
3	25	207	59	505	1,308	695	2,800
4	28	195	69	535	1,428	645	2,900
5	28	194	68	522	1,454	833	3,100
6	28	206	66	556	1,524	920	3,300
7	0	243	69	764	1,760	963	3,800
8	0	215	79	1,039	1,611	857	3,800
9	0	247	72	1,188	1,555	838	3,900
10	0	279	75	1,205	1,580	1,162	4,300
11	0	313	89	1,273	1,718	1,007	4,400
12	0	282	85	1,158	1,565	1,410	4,500
13	0	281	77	1,148	1,567	1,028	4,100
14	0	293	82	1,111	1,559	1,055	4,100
15	0	289	79	1,037	1,625	869	3,900
16	0	296	80	1,053	1,618	954	4,000
17	0	277	83	1,003	1,705	1,031	4,100
18	0	280	82	963	1,688	987	4,000
19	14	287	71	753	1,678	1,396	4,200
20	22	220	60	560	1,448	1,690	4,000
21	22	198	58	485	1,420	1,417	3,600
22	20	203	52	470	1,268	987	3,000
23	22	197	53	461	1,313	754	2,800
24	25	218	59	473	1,391	634	2,800
TOTAL	286	5,856	1,684	19,398	36,438	23,537	87,200
MIN	0	194	52	461	1,268	634	2,800
MAX	28	313	89	1,273	1,760	1,690	4,500
MEAN	12	244	70	808	1,518	981	3,633

The instantaneous system daytime peak of 4.650 MW occurred on October 17, 2005 @ 11:08.

Table 4.8 k
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 November 2005

HOUR	F	G	H	J	P	R	System Total
1	30	181	55	426	1,205	704	2,600
2	31	186	60	441	1,242	540	2,500
3	30	185	61	413	1,207	603	2,500
4	31	186	63	432	1,217	571	2,500
5	32	183	64	452	1,252	717	2,700
6	33	201	62	604	1,417	682	3,000
7	8	219	68	865	1,658	781	3,600
8	0	204	68	898	1,591	1,039	3,800
9	0	174	62	787	1,428	1,549	4,000
10	0	196	71	934	1,727	1,573	4,500
11	0	206	73	996	1,859	1,466	4,600
12	0	200	74	913	1,708	1,205	4,100
13	0	199	66	947	1,658	1,431	4,300
14	0	200	64	886	1,638	1,512	4,300
15	0	209	68	927	1,731	1,465	4,400
16	0	224	71	956	1,885	1,364	4,500
17	0	214	68	920	1,806	1,493	4,500
18	0	245	61	880	1,763	1,651	4,600
19	27	261	63	723	1,889	1,237	4,200
20	34	222	68	628	1,833	1,216	4,000
21	31	192	59	546	1,624	1,348	3,800
22	29	177	54	465	1,444	1,432	3,600
23	29	174	55	444	1,323	1,075	3,100
24	33	190	58	463	1,381	976	3,100
TOTAL	377	4,827	1,535	16,945	37,487	27,629	88,800
MIN	0	174	54	413	1,205	540	2,500
MAX	34	261	74	996	1,889	1,651	4,600
MEAN	16	201	64	706	1,562	1,151	3,700

The instantaneous system daytime peak of 4.770 MW occurred on November 24, 2005 @ 10:38.

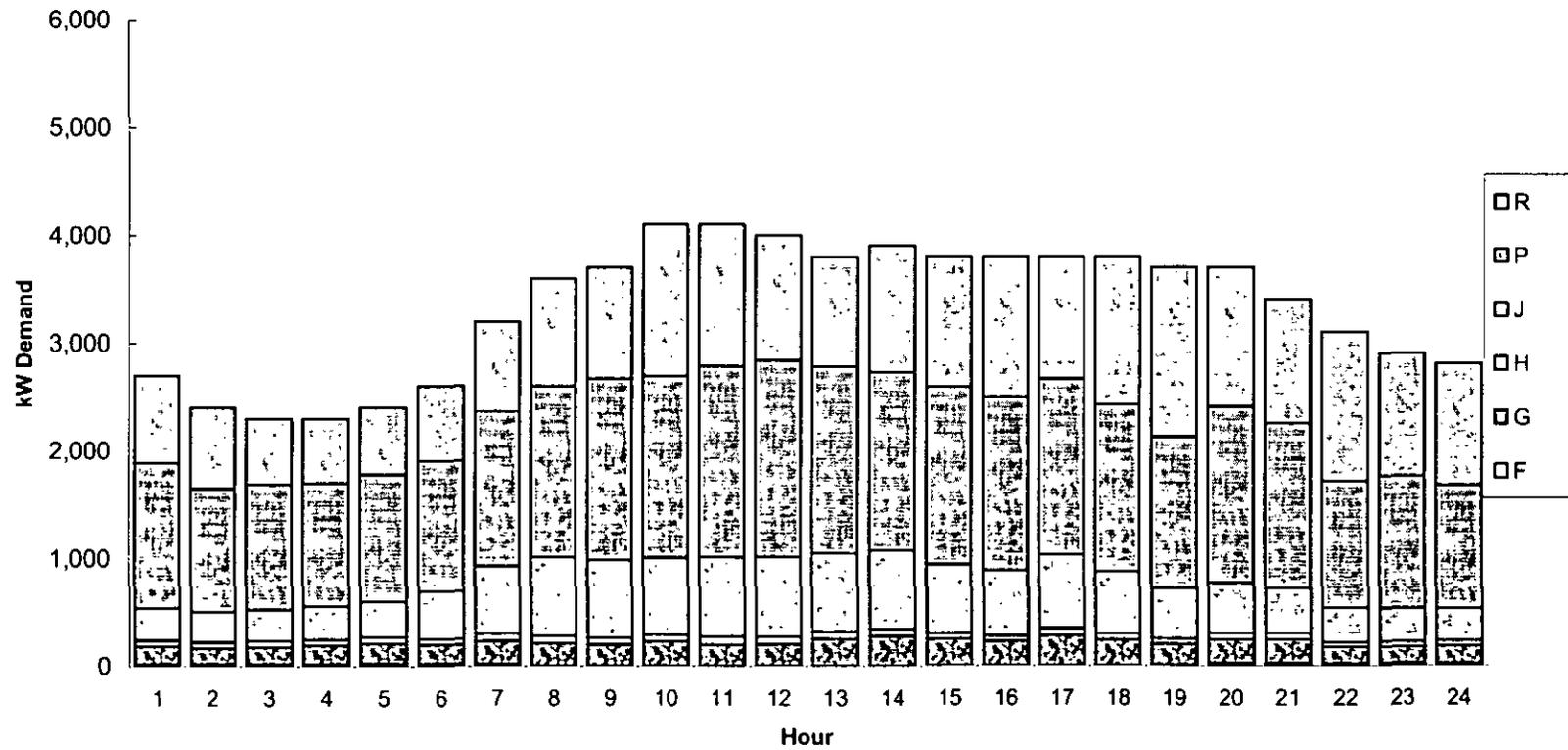
Table 4.8 I
 TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 December 2005

HOUR	F	G	H	J	P	R	System Total
1	26	228	56	611	1,449	630	3,000
2	26	202	58	530	1,371	613	2,800
3	27	211	58	507	1,416	581	2,800
4	26	188	61	470	1,403	652	2,800
5	29	207	63	541	1,563	696	3,100
6	28	204	58	678	1,567	865	3,400
7	13	202	58	755	1,495	1,077	3,600
8	0	231	68	867	1,626	908	3,700
9	0	249	63	940	1,596	953	3,800
10	0	244	66	1,070	1,611	910	3,900
11	0	259	71	1,099	1,581	990	4,000
12	0	279	72	1,076	1,568	906	3,900
13	0	273	66	1,099	1,604	857	3,900
14	0	299	66	972	1,627	936	3,900
15	0	267	70	932	1,623	908	3,800
16	0	266	69	925	1,664	977	3,900
17	0	270	71	919	1,643	1,097	4,000
18	0	249	66	842	1,751	1,291	4,200
19	19	271	65	706	1,787	1,352	4,200
20	24	243	64	599	1,714	1,355	4,000
21	23	207	57	543	1,602	1,268	3,700
22	22	198	50	471	1,444	1,015	3,200
23	19	145	43	382	1,159	1,051	2,800
24	21	164	45	394	1,210	765	2,600
TOTAL	303	5,558	1,484	17,927	37,075	22,654	85,000
MIN	0	145	43	382	1,159	581	2,600
MAX	29	299	72	1,099	1,787	1,355	4,200
MEAN	13	232	62	747	1,545	944	3,542

The instantaneous system daytime peak of 4.730 MW occurred on December 20, 2005 @ 10:30.

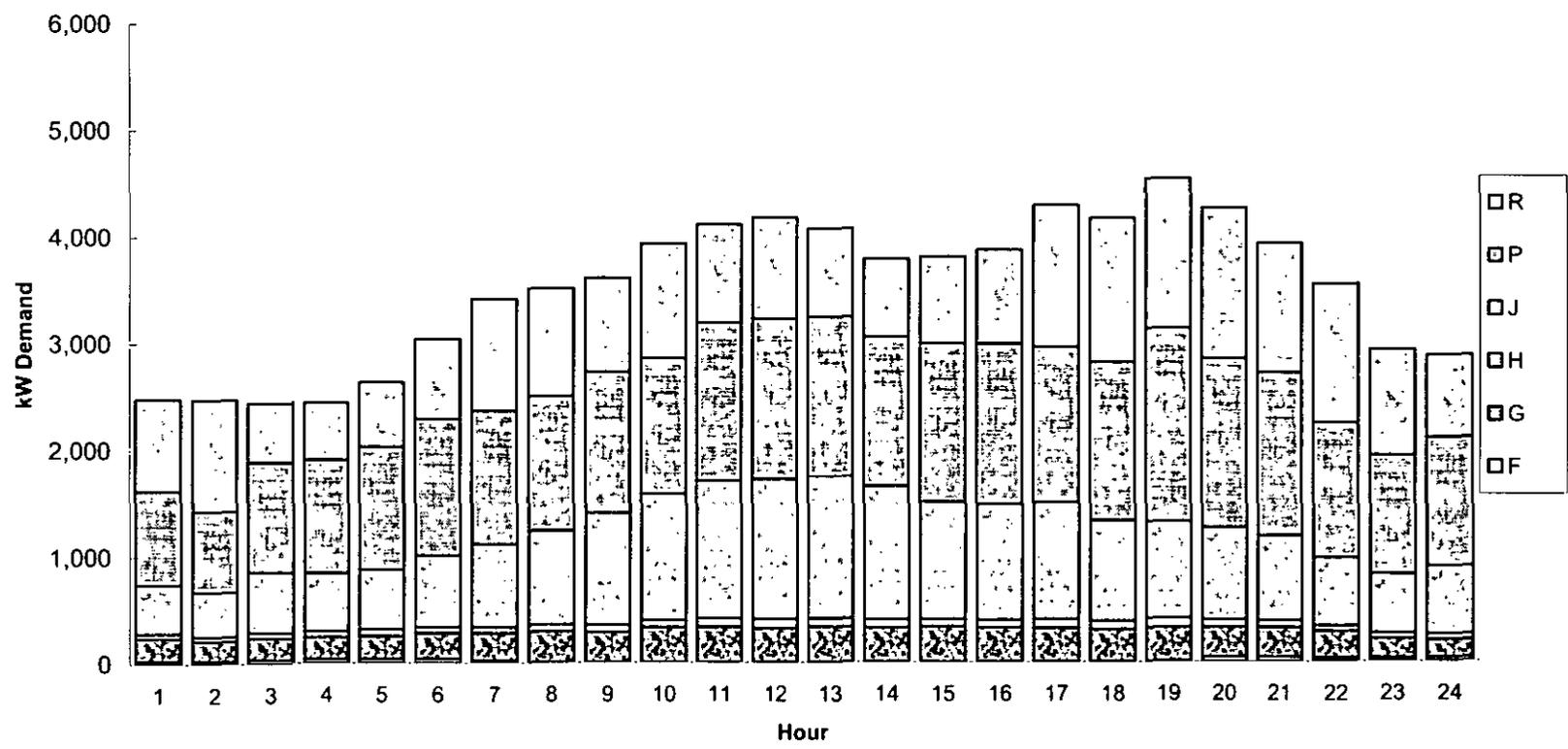
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Exhibit 4.7 a
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 January 2005



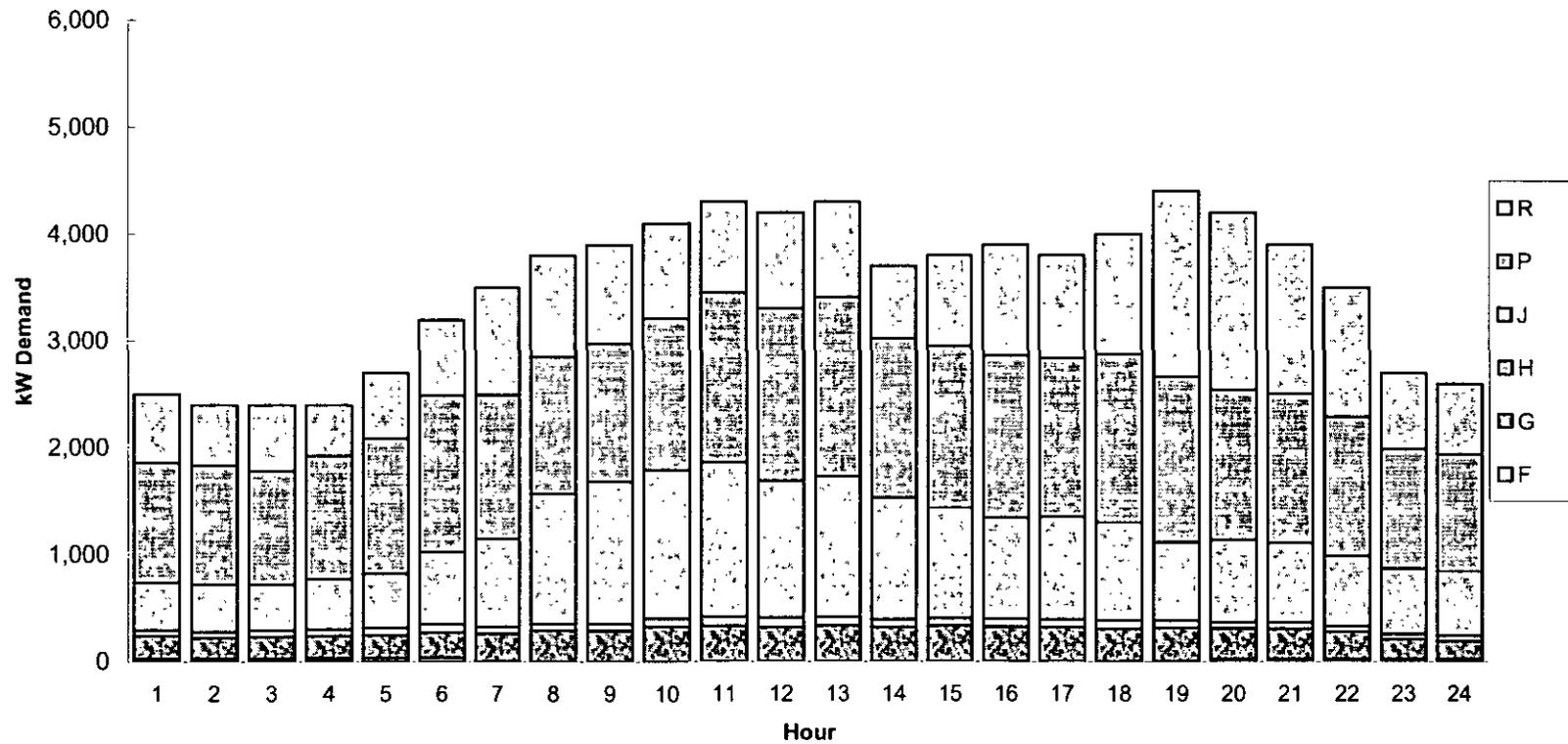
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Exhibit 4.7 b
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 February 2005



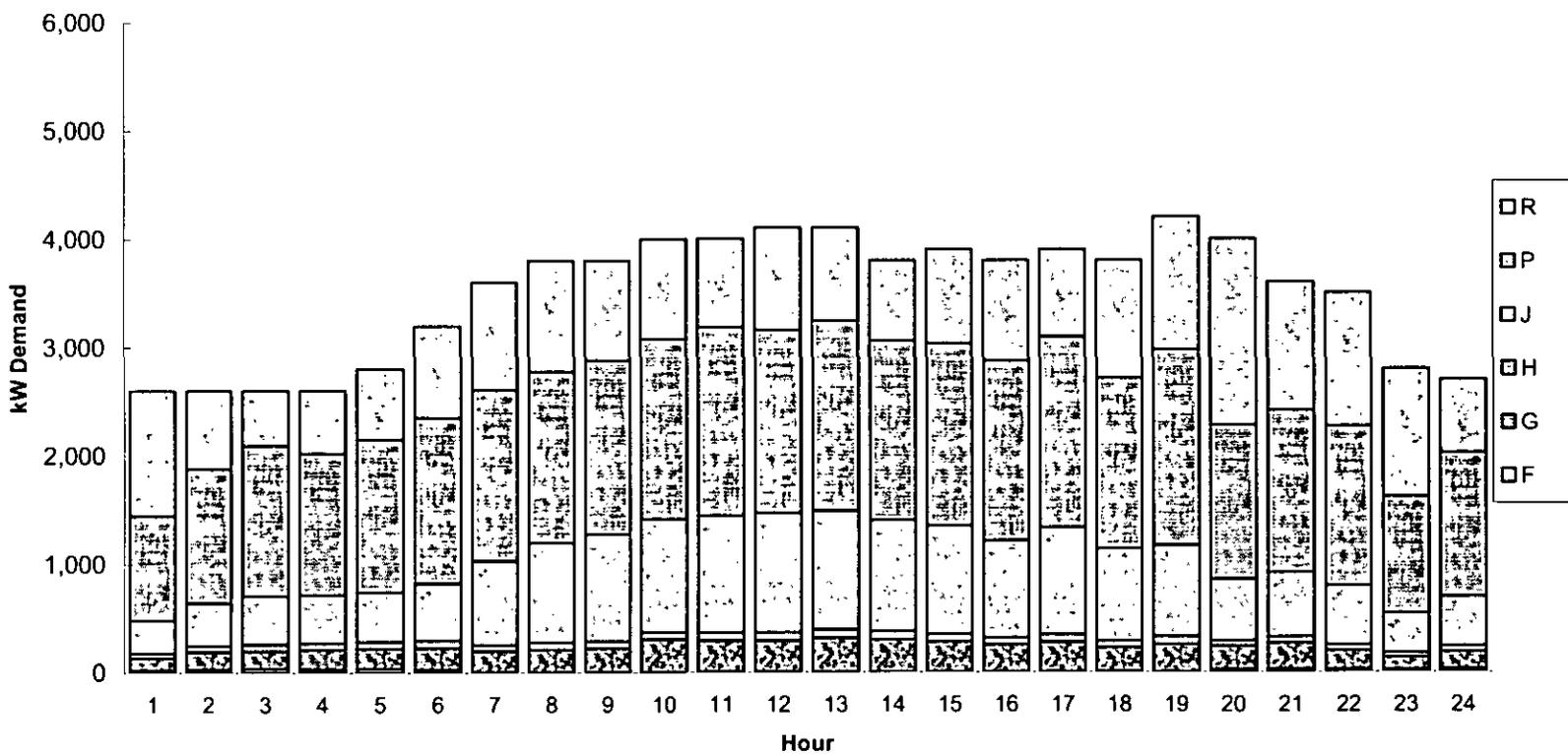
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Exhibit 4.7 c
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 March 2005



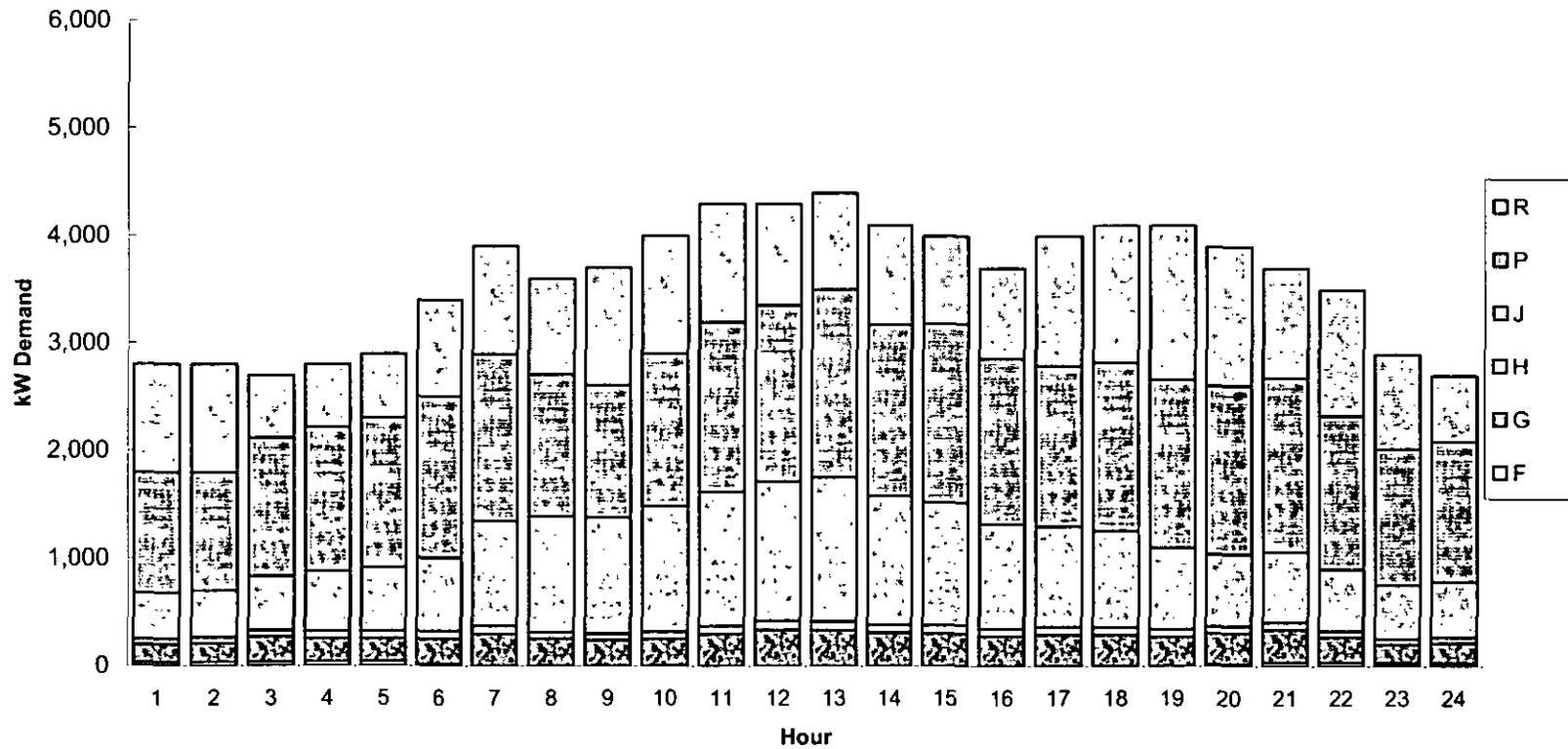
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Exhibit 4.7 d
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 April 2005



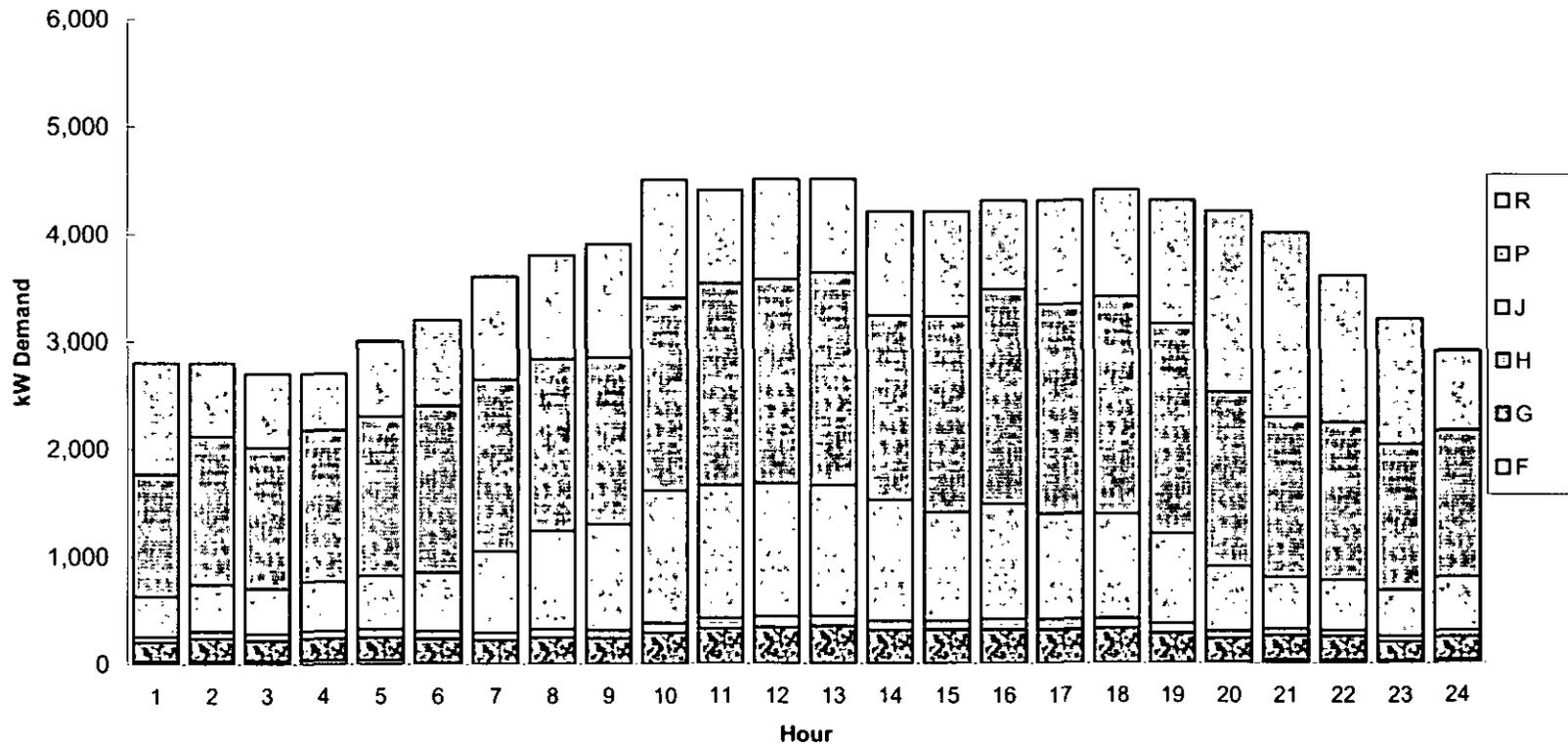
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Exhibit 4.7 e
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 May 2005



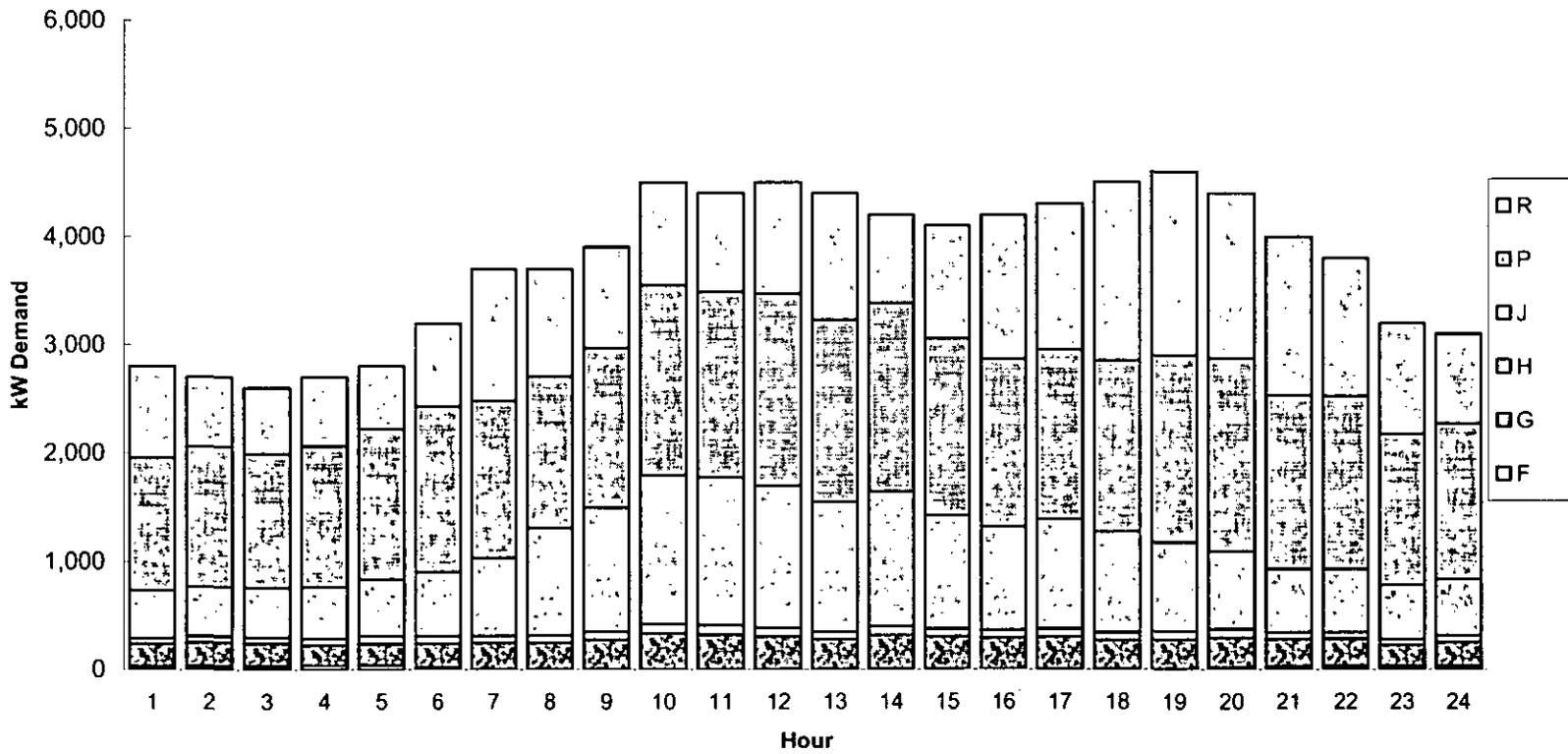
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Exhibit 4.7 f
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 June 2005



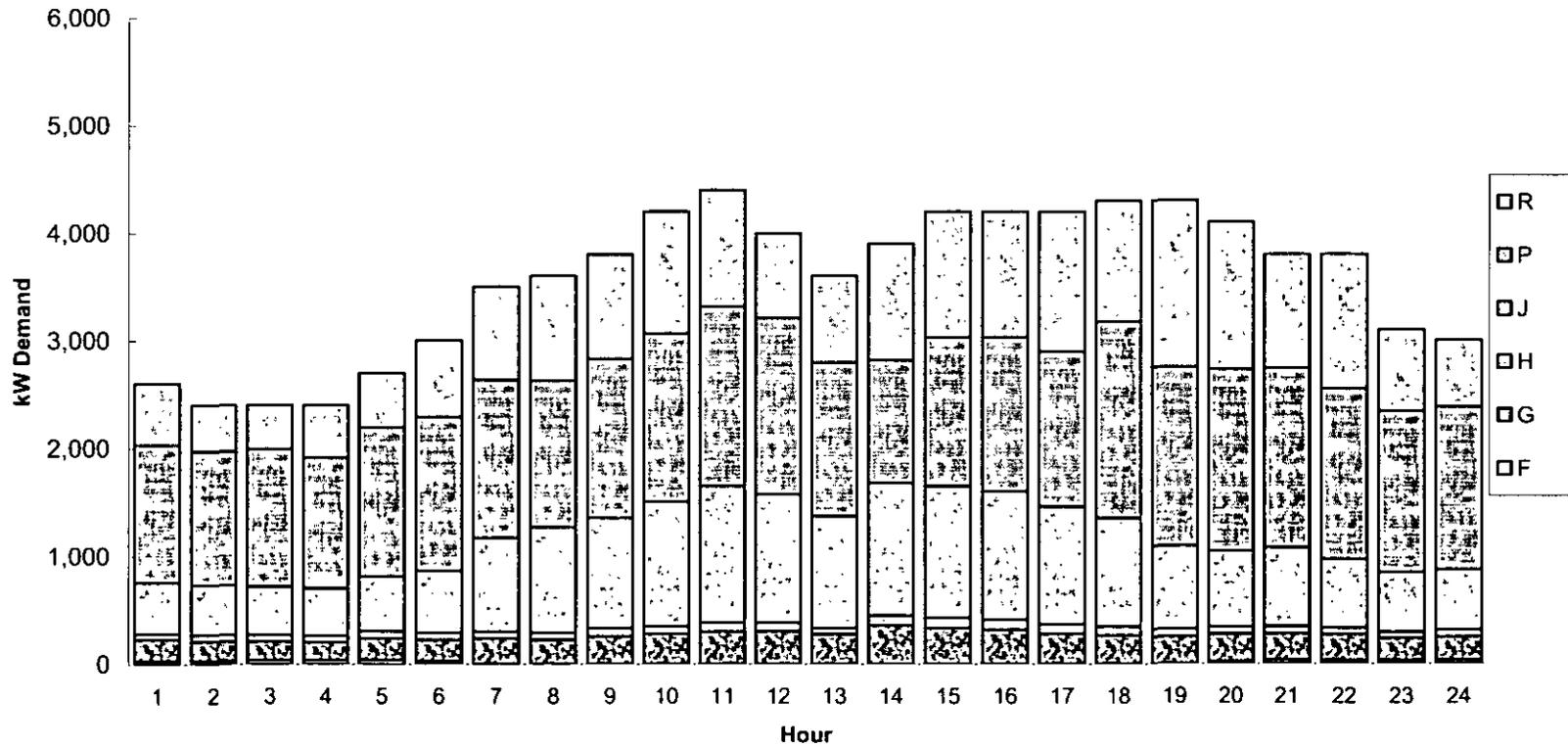
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Exhibit 4.7 g
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 July 2005



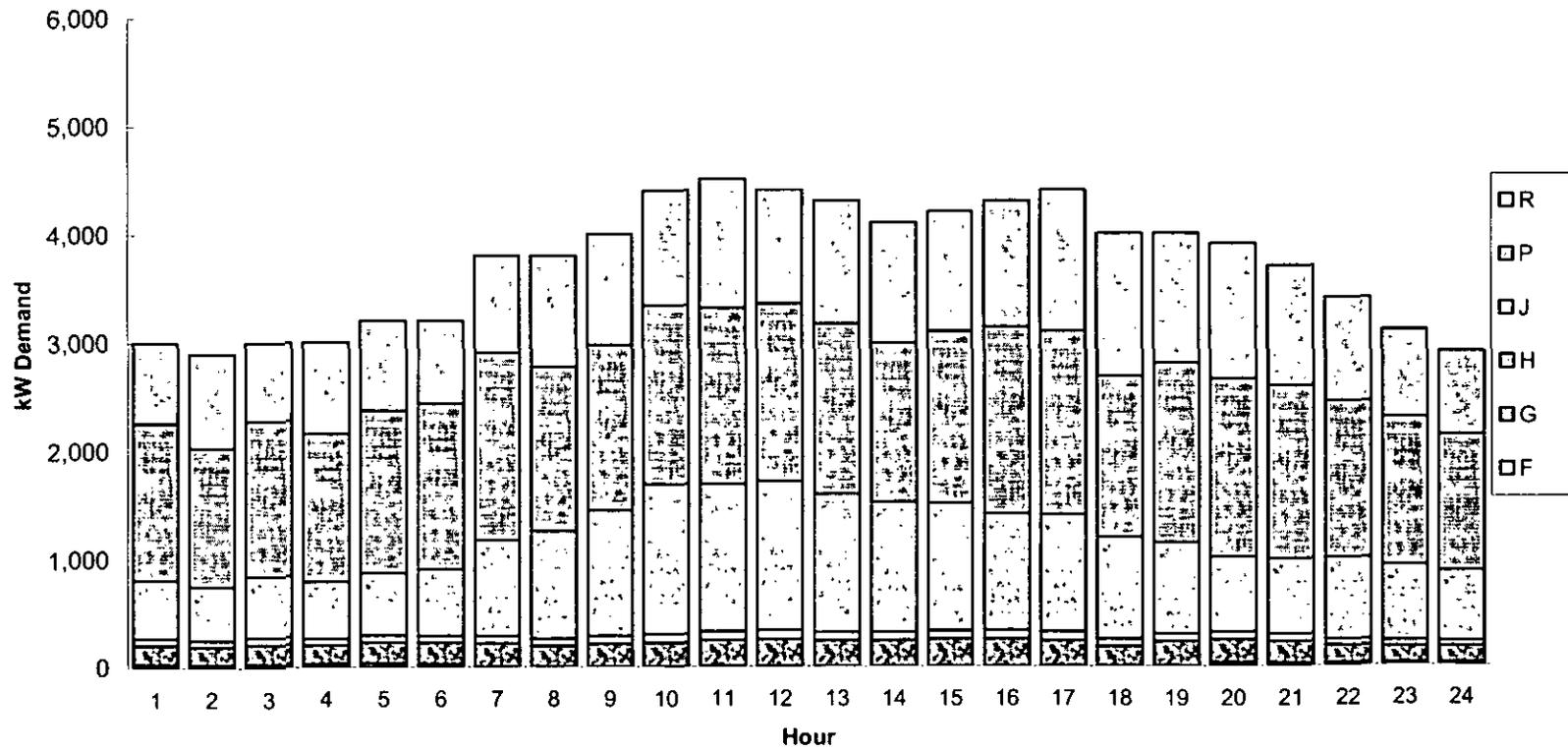
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Exhibit 4.7 h
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 August 2005



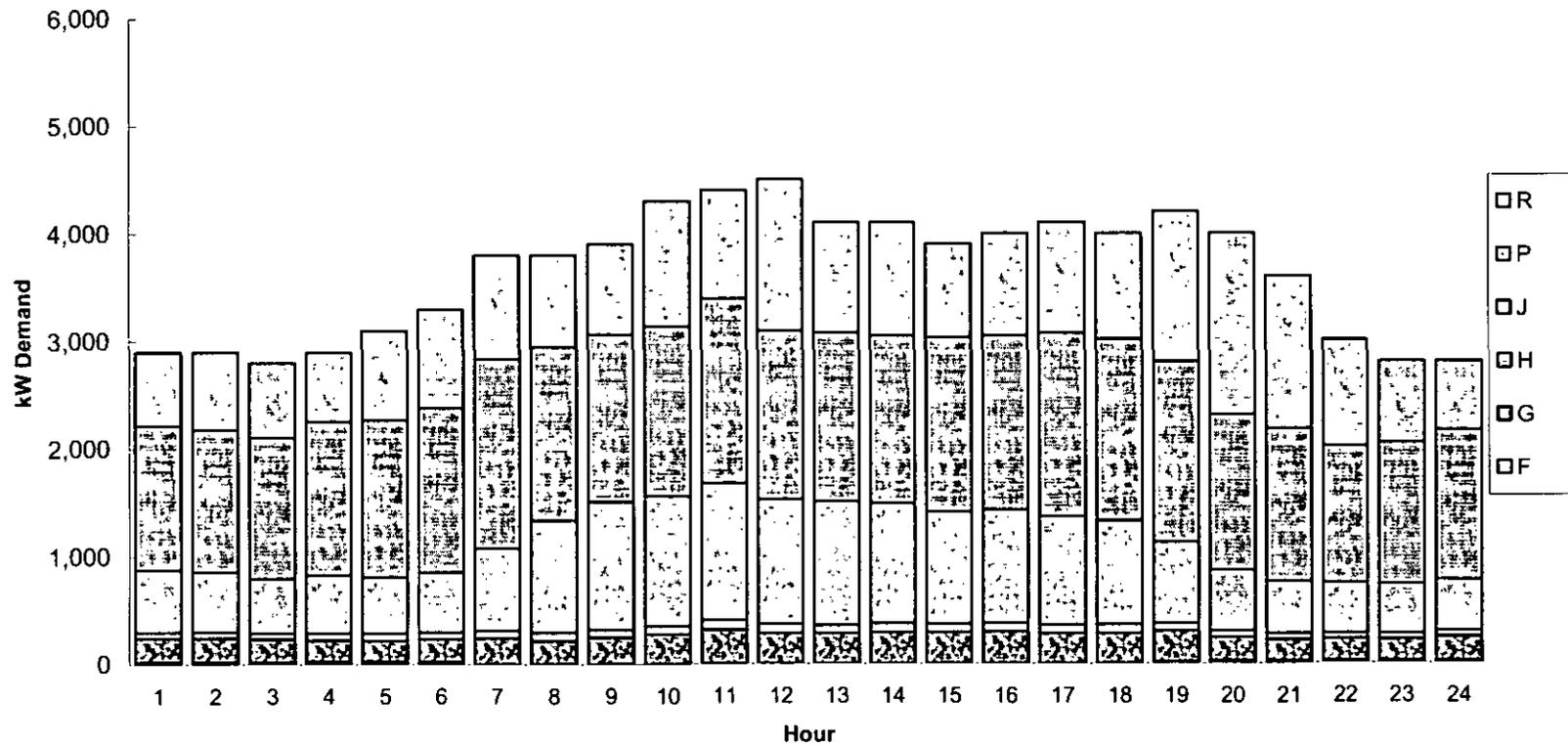
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Exhibit 4.7 i
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 September 2005



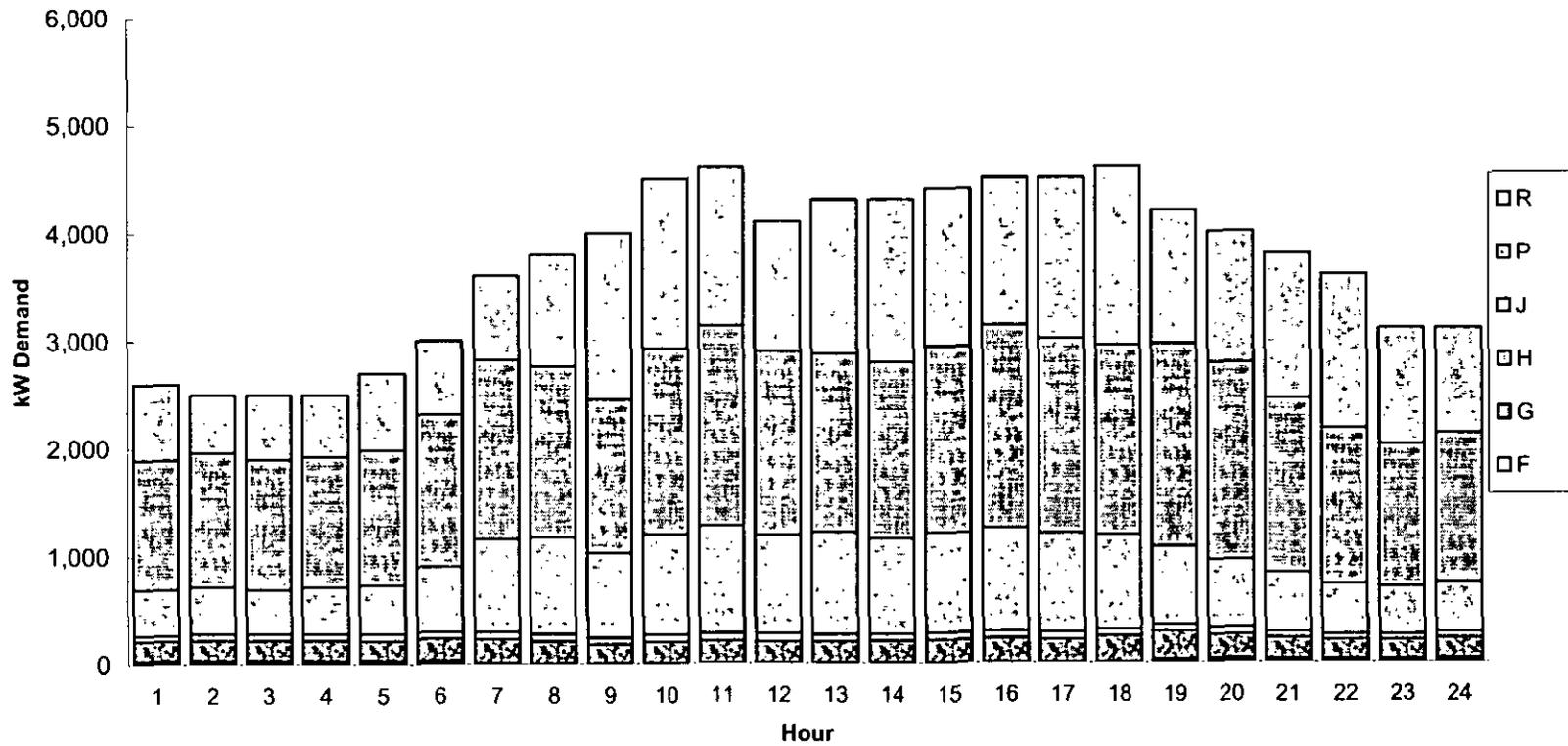
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Exhibit 4.7 j
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 October 2005



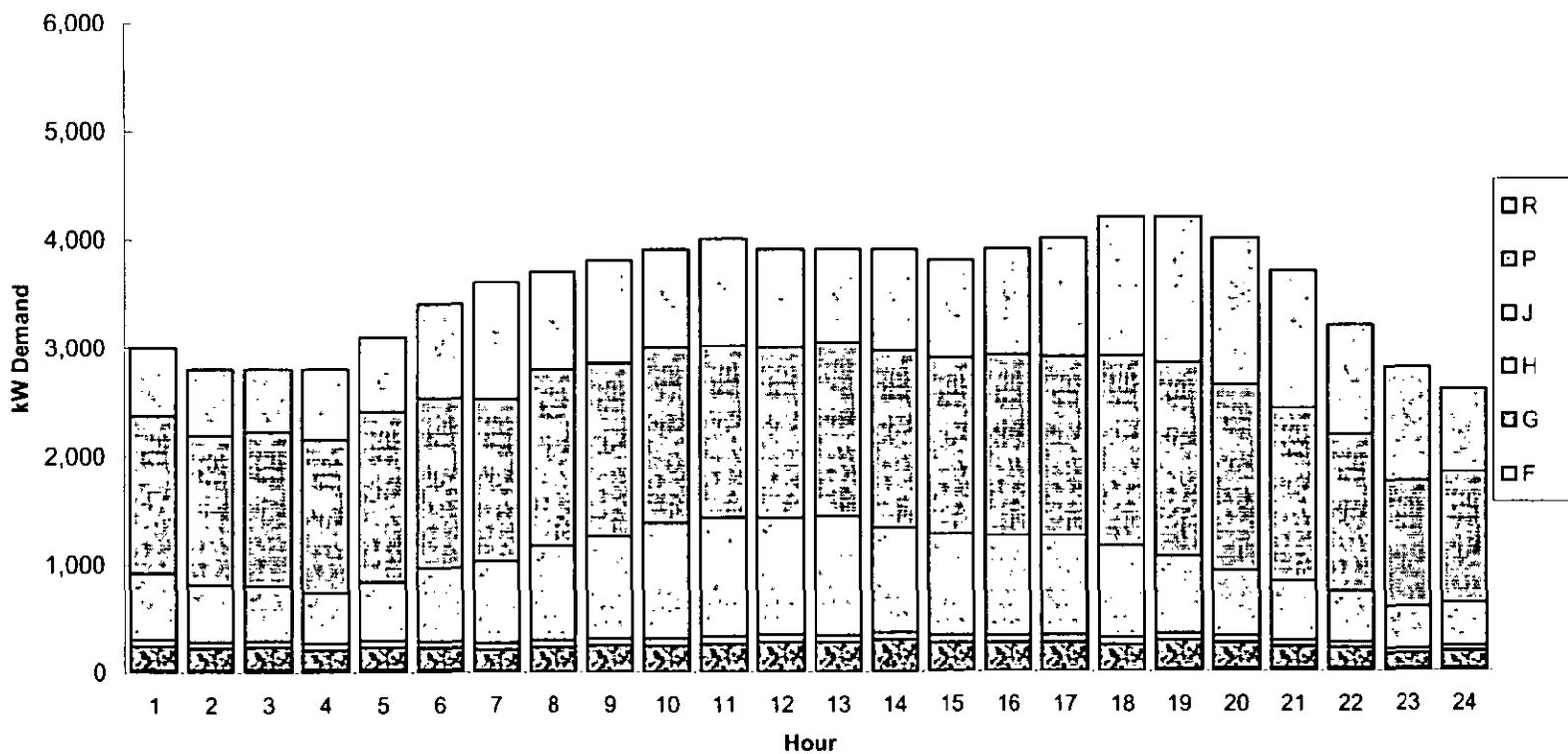
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Exhibit 4.7 k
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 November 2005



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Exhibit 4.7 I
 HOURLY CLASS LOAD FOR THE DAY OF THE DAYTIME PEAK
 Normalized at the Gross Generation Level
 December 2005



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Table 4.9 a

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

January 2005

HOUR	F	G	H	J	P	R	System Total
1	1	6	2	11	50	30	100 %
2	1	6	2	12	48	31	100
3	1	7	3	13	50	27	100
4	1	8	3	14	50	26	100
5	1	8	3	14	49	26	100
6	1	7	2	17	47	27	100
7	1	7	2	20	45	26	100
8	0	6	2	20	44	28	100
9	0	5	2	20	46	28	100
10	0	6	2	17	41	34	100
11	0	5	2	18	43	32	100
12	0	5	2	19	46	29	100
13	0	7	2	19	46	27	100
14	0	7	2	19	43	30	100
15	0	7	2	17	43	32	100
16	0	6	1	16	43	34	100
17	0	7	2	18	43	30	100
18	0	6	2	15	41	36	100
19	0	5	1	13	38	43	100
20	1	6	2	13	44	35	100
21	1	7	2	12	45	34	100
22	1	5	1	10	38	45	100
23	1	5	2	11	42	39	100
24	1	6	2	11	41	40	100
MIN	0	5	1	10	44	32	100
MAX	1	8	3	20	50	45	100
MEAN	0	6	2	15	50	26	100

The instantaneous system daytime peak of 4.350 MW occurred on January 1, 2005 @ 11:25.

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Table 4.9 b

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

February 2005

HOUR	F	G	H	J	P	R	System Total
1	1	6	2	19	37	36	100 %
2	1	5	2	17	31	44	100
3	2	7	2	24	43	23	100
4	2	7	2	23	44	22	100
5	2	7	3	21	44	23	100
6	2	7	2	22	43	25	100
7	1	7	2	23	37	31	100
8	0	8	2	25	36	29	100
9	0	8	2	29	37	25	100
10	0	8	2	30	33	28	100
11	0	8	2	31	36	23	100
12	0	8	2	31	36	23	100
13	0	9	2	33	36	20	100
14	0	9	2	33	37	19	100
15	0	9	2	29	39	22	100
16	0	9	2	28	39	23	100
17	0	8	2	25	34	31	100
18	0	8	2	22	35	32	100
19	0	8	2	20	39	31	100
20	1	8	2	20	37	33	100
21	1	7	2	20	39	31	100
22	1	6	2	18	36	37	100
23	1	6	2	19	38	34	100
24	1	7	2	22	42	27	100
MIN	0	5	2	17	38	28	100
MAX	2	9	3	33	44	44	100
MEAN	1	7	2	24	31	22	100

The instantaneous system daytime peak of 4.350 MW occurred on February 24, 2005 @ 11:55.

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Table 4.9 c

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

March 2005

HOUR	F	G	H	J	P	R	System Total
1	1	9	2	18	45	26	100 %
2	1	8	2	19	46	24	100
3	1	8	3	18	44	26	100
4	1	9	3	20	48	20	100
5	1	8	3	19	47	23	100
6	1	7	2	21	46	22	100
7	0	7	2	24	39	29	100
8	0	8	2	32	34	25	100
9	0	7	2	34	33	24	100
10	0	8	2	34	35	22	100
11	0	8	2	34	37	20	100
12	0	8	2	31	38	21	100
13	0	8	2	31	39	21	100
14	0	9	2	31	40	18	100
15	0	9	2	27	40	22	100
16	0	8	2	24	39	27	100
17	0	8	2	25	39	25	100
18	0	8	2	23	39	28	100
19	0	7	2	17	35	40	100
20	1	7	1	18	34	40	100
21	1	7	2	19	36	36	100
22	1	7	2	19	37	35	100
23	1	7	2	23	41	27	100
24	1	6	2	23	42	26	100
MIN	0	6	1	17	39	26	100
MAX	1	9	3	34	48	40	100
MEAN	0	8	2	24	44	20	100

The instantaneous system daytime peak of 4.525 MW occurred on March 8, 2005 @ 11:32.

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Table 4.9 d

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

April 2005

HOURL	F	G	H	J	P	R	System Total
1	1	5	2	12	37	44	100 %
2	1	6	2	15	48	28	100
3	1	6	2	17	53	20	100
4	1	7	2	17	50	22	100
5	1	7	2	16	50	23	100
6	1	6	2	17	48	27	100
7	0	6	2	21	44	28	100
8	0	6	2	24	42	27	100
9	0	6	2	26	42	24	100
10	0	8	2	26	42	23	100
11	0	7	2	27	43	21	100
12	0	7	2	27	41	23	100
13	0	8	2	27	43	21	100
14	0	8	2	27	44	20	100
15	0	7	2	26	43	22	100
16	0	7	2	24	44	24	100
17	0	7	2	25	45	21	100
18	0	6	2	22	42	29	100
19	0	6	2	20	43	29	100
20	1	6	1	14	36	43	100
21	1	7	2	16	42	33	100
22	1	5	2	16	42	35	100
23	1	4	1	13	39	42	100
24	1	6	2	17	49	25	100
MIN	0	4	1	12	43	27	100
MAX	1	8	2	27	53	44	100
MEAN	0	6	2	20	37	20	100

The instantaneous system daytime peak of 4.380 MW occurred on April 20, 2005 @ 10:42.

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Table 4.9 e

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

May 2005

HOUR	F	G	H	J	P	R	System Total
1	1	6	2	16	40	36	100 %
2	1	6	2	16	39	36	100
3	2	9	2	19	48	22	100
4	2	8	2	20	48	21	100
5	2	7	2	20	48	21	100
6	1	7	2	20	44	26	100
7	0	8	2	25	40	26	100
8	0	7	2	30	37	25	100
9	0	7	2	29	33	30	100
10	0	6	2	29	36	28	100
11	0	7	2	29	37	26	100
12	0	8	2	30	38	22	100
13	0	8	2	30	40	20	100
14	0	8	2	29	39	23	100
15	0	8	2	28	42	21	100
16	0	8	2	26	42	23	100
17	0	7	2	23	37	30	100
18	0	7	2	22	38	31	100
19	0	7	2	19	38	35	100
20	1	7	2	17	40	33	100
21	1	8	2	18	44	28	100
22	1	7	2	16	41	34	100
23	1	6	2	17	44	30	100
24	1	7	2	19	48	23	100
MIN	0	6	2	16	40	27	100
MAX	2	9	2	30	48	36	100
MEAN	1	7	2	23	41	22	100

The instantaneous system daytime peak of 4.520 MW occurred on May 18, 2005 @ 11:11.

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Table 4.9 f

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

June 2005

HOUR	F	G	H	J	P	R	System Total
1	1	6	2	13	40	37	100 %
2	1	7	2	16	49	24	100
3	1	7	2	16	49	25	100
4	1	8	3	17	52	20	100
5	1	7	3	17	49	23	100
6	1	7	2	17	48	25	100
7	0	6	2	21	44	27	100
8	0	7	2	24	42	25	100
9	0	6	2	25	40	27	100
10	0	7	2	27	40	24	100
11	0	7	2	28	43	20	100
12	0	8	2	28	42	21	100
13	0	8	2	27	44	19	100
14	0	7	2	27	41	23	100
15	0	7	2	24	43	23	100
16	0	7	2	25	46	19	100
17	0	7	2	23	45	22	100
18	0	7	2	22	46	23	100
19	0	7	2	19	45	27	100
20	0	5	2	14	39	40	100
21	1	6	2	12	37	43	100
22	1	6	2	13	41	38	100
23	1	5	2	14	42	36	100
24	1	7	2	17	47	26	100
MIN	0	5	2	12	44	26	100
MAX	1	8	3	28	52	43	100
MEAN	0	7	2	20	42	20	100

The instantaneous system daytime peak of 4.600 MW occurred on June 13, 2005 @ 11:56.

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Table 4.9 g

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

July 2005

HOUR	F	G	H	J	P	R	System Total
1	1	7	2	16	44	30	100 %
2	1	8	2	17	48	24	100
3	1	8	2	18	48	24	100
4	1	7	2	18	48	24	100
5	1	7	3	19	50	21	100
6	1	7	2	19	48	24	100
7	0	7	2	20	39	33	100
8	0	7	2	27	38	27	100
9	0	7	2	29	38	24	100
10	0	7	2	31	39	21	100
11	0	7	2	31	39	21	100
12	0	7	2	29	40	23	100
13	0	6	2	27	38	27	100
14	0	8	2	30	42	19	100
15	0	7	2	26	40	26	100
16	0	7	2	23	37	32	100
17	0	7	2	23	36	31	100
18	0	6	2	21	35	37	100
19	0	6	2	18	38	37	100
20	0	6	2	16	41	35	100
21	1	6	2	15	40	37	100
22	1	7	2	15	42	34	100
23	1	6	2	16	44	32	100
24	1	7	2	17	46	27	100
MIN	0	6	2	15	41	28	100
MAX	1	8	3	31	50	37	100
MEAN	0	7	2	22	47	22	100

The instantaneous system daytime peak of 4.780 MW occurred on July 28, 2005 @ 10:48.

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Table 4.9 h

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

August 2005

HOUR	F	G	H	J	P	R	System Total
1	1	8	2	18	49	22	100 %
2	1	7	3	19	52	18	100
3	2	7	3	19	53	17	100
4	1	7	2	18	50	20	100
5	2	7	3	19	51	19	100
6	1	7	2	19	48	24	100
7	0	7	2	25	42	25	100
8	0	6	2	27	38	27	100
9	0	7	2	27	39	26	100
10	0	7	2	28	37	27	100
11	0	7	2	29	38	25	100
12	0	8	2	30	41	20	100
13	0	8	2	29	40	22	100
14	0	9	2	32	29	28	100
15	0	8	2	29	33	28	100
16	0	8	2	28	34	28	100
17	0	7	2	26	34	31	100
18	0	6	2	23	42	26	100
19	0	6	2	18	39	36	100
20	1	6	2	17	41	34	100
21	1	7	2	19	44	28	100
22	1	6	2	17	42	33	100
23	1	7	2	18	48	25	100
24	1	7	2	19	50	21	100
MIN	0	6	2	17	41	26	100
MAX	2	9	3	32	53	36	100
MEAN	1	7	2	23	47	17	100

The instantaneous system daytime peak of 4.620 MW occurred on August 10, 2005 @ 11:02.

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Table 4.9 i

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

September 2005

HOURL	F	G	H	J	P	R	System Total
1	1	6	2	18	48	25	100 %
2	1	6	2	17	44	30	100
3	1	6	2	19	48	24	100
4	1	6	2	18	46	28	100
5	1	6	2	18	47	26	100
6	1	6	2	19	48	24	100
7	0	6	2	23	46	24	100
8	0	5	2	26	40	27	100
9	0	5	2	29	38	26	100
10	0	5	2	32	37	24	100
11	0	5	2	30	36	27	100
12	0	6	2	31	37	24	100
13	0	6	2	30	37	26	100
14	0	6	2	29	36	27	100
15	0	6	2	28	38	26	100
16	0	6	2	25	40	27	100
17	0	5	2	25	39	30	100
18	0	5	2	24	37	33	100
19	0	6	2	21	41	30	100
20	1	6	2	18	42	32	100
21	1	5	2	19	43	30	100
22	1	5	2	22	43	28	100
23	1	5	2	23	44	26	100
24	1	5	2	22	43	27	100
MIN	0	5	2	17	41	27	100
MAX	1	6	2	32	48	33	100
MEAN	0	5	2	24	43	25	100

The instantaneous system daytime peak of 4.620 MW occurred on September 24, 2005 @ 11:25.

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Table 4.9 j

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

October 2005

HOURLY	F	G	H	J	P	R	System Total
1	1	8	2	20	46	24	100 %
2	1	8	2	19	46	25	100
3	1	7	2	18	47	25	100
4	1	7	2	19	49	22	100
5	1	6	2	17	47	27	100
6	1	6	2	17	46	28	100
7	0	6	2	20	46	25	100
8	0	6	2	27	42	23	100
9	0	6	2	31	40	22	100
10	0	7	2	28	37	27	100
11	0	7	2	29	39	23	100
12	0	6	2	26	35	31	100
13	0	7	2	28	38	25	100
14	0	7	2	27	38	26	100
15	0	7	2	27	42	22	100
16	0	7	2	26	40	24	100
17	0	7	2	25	42	25	100
18	0	7	2	24	42	25	100
19	0	7	2	18	40	33	100
20	1	6	2	14	36	42	100
21	1	6	2	14	39	39	100
22	1	7	2	16	42	33	100
23	1	7	2	17	47	27	100
24	1	8	2	17	50	23	100
MIN	0	6	2	14	42	27	100
MAX	1	8	2	31	50	42	100
MEAN	0	7	2	22	45	23	100

The instantaneous system daytime peak of 4.650 MW occurred on October 17, 2005 @ 11:08.

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Table 4.9 k

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

November 2005

HOURL	F	G	H	J	P	R	System Total
1	1	7	2	16	46	27	100 %
2	1	7	2	18	50	22	100
3	1	7	2	17	48	24	100
4	1	8	3	17	49	23	100
5	1	7	2	17	46	27	100
6	1	7	2	20	47	23	100
7	0	6	2	24	46	22	100
8	0	5	2	24	42	27	100
9	0	4	2	20	36	39	100
10	0	4	2	21	38	35	100
11	0	5	2	22	40	32	100
12	0	5	2	22	42	29	100
13	0	5	2	22	39	33	100
14	0	5	2	21	38	35	100
15	0	5	2	21	39	33	100
16	0	5	2	21	42	30	100
17	0	5	2	20	40	33	100
18	0	5	1	19	38	36	100
19	1	6	2	17	45	30	100
20	1	6	2	16	46	30	100
21	1	5	2	14	43	36	100
22	1	5	2	13	40	40	100
23	1	6	2	14	43	35	100
24	1	6	2	15	45	32	100
MIN	0	4	1	13	42	31	100
MAX	1	8	3	24	50	40	100
MEAN	1	6	2	19	48	22	100

The instantaneous system daytime peak of 4.770 MW occurred on November 24, 2005 @ 10:38.

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Table 4.9 I

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
kW Demand as a Percent of the System, Normalized at the Gross Generation Level

December 2005

HOURL	F	G	H	J	P	R	System Total
1	1	8	2	20	48	21	100 %
2	1	7	2	19	49	22	100
3	1	8	2	18	51	21	100
4	1	7	2	17	50	23	100
5	1	7	2	18	50	22	100
6	1	6	2	20	46	25	100
7	0	6	2	21	42	30	100
8	0	6	2	23	44	25	100
9	0	7	2	25	42	25	100
10	0	6	2	27	41	23	100
11	0	7	2	28	40	25	100
12	0	7	2	28	40	23	100
13	0	7	2	28	41	22	100
14	0	8	2	25	42	24	100
15	0	7	2	25	43	24	100
16	0	7	2	24	43	25	100
17	0	7	2	23	41	27	100
18	0	6	2	20	42	31	100
19	0	7	2	17	43	32	100
20	1	6	2	15	43	34	100
21	1	6	2	15	43	34	100
22	1	6	2	15	45	32	100
23	1	5	2	14	41	38	100
24	1	6	2	15	47	29	100
MIN	0	5	2	14	44	27	100
MAX	1	8	2	28	51	38	100
MEAN	0	7	2	21	45	22	100

The instantaneous system daytime peak of 4.730 MW occurred on December 20, 2005 @ 10:30.

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Table 4.10 a
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
 Non-normalized at the Gross Generation Level
 January 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	23	180	62	333	1,489	895	2,982	2,700	+ 10.5
2	23	179	69	341	1,377	902	2,891	2,400	+ 20.5
3	23	181	67	333	1,326	699	2,629	2,300	+ 14.3
4	23	185	61	334	1,227	641	2,470	2,300	+ 7.4
5	23	198	62	345	1,230	645	2,501	2,400	+ 4.2
6	23	185	59	455	1,262	716	2,701	2,600	+ 3.9
7	16	196	64	567	1,305	756	2,903	3,200	- 9.3
8	0	181	63	636	1,386	876	3,143	3,600	- 12.7
9	0	178	59	652	1,523	933	3,345	3,700	- 9.6
10	0	211	63	660	1,569	1,309	3,811	4,100	- 7.0
11	0	174	64	641	1,545	1,148	3,573	4,100	- 12.9
12	0	179	63	659	1,620	1,034	3,555	4,000	- 11.1
13	0	230	60	653	1,569	921	3,434	3,800	- 9.6
14	0	263	61	683	1,558	1,102	3,668	3,900	- 6.0
15	0	262	59	668	1,737	1,280	4,007	3,800	+ 5.4
16	0	246	57	654	1,749	1,412	4,118	3,800	+ 8.4
17	0	267	62	645	1,545	1,076	3,596	3,800	- 5.4
18	0	241	58	574	1,551	1,376	3,801	3,800	+ 0.0
19	10	207	56	502	1,506	1,690	3,971	3,700	+ 7.3
20	23	211	57	441	1,555	1,233	3,519	3,700	- 4.9
21	23	226	59	422	1,554	1,168	3,452	3,400	+ 1.5
22	23	194	55	402	1,477	1,746	3,897	3,100	+ 25.7
23	23	184	59	372	1,473	1,364	3,474	2,900	+ 19.8
24	23	185	56	345	1,322	1,296	3,227	2,800	+ 15.2
TOTAL	276	4,945	1,456	12,317	35,454	26,219	80,668	79,900	+ 1.0
MIN	0	174	55	333	1,227	641	2,470	2,300	- 12.9
MAX	23	267	69	683	1,749	1,746	4,118	4,100	+ 25.7
MEAN	12	206	61	513	1,477	1,092	3,361	3,329	+ 2.3

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Table 4.10 b

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

February 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	36	164	55	568	1,087	1,071	2,982	2,400	+ 24.2
2	36	161	58	578	1,052	1,464	3,350	2,400	+ 39.6
3	36	163	55	579	1,051	567	2,451	2,400	+ 2.1
4	36	168	55	546	1,068	539	2,413	2,400	+ 0.5
5	36	162	58	494	1,021	533	2,305	2,600	- 11.3
6	36	168	51	554	1,064	618	2,491	3,000	- 17.0
7	19	225	53	710	1,134	957	3,100	3,400	- 8.8
8	0	269	64	823	1,182	948	3,285	3,500	- 6.1
9	0	273	65	1,009	1,275	851	3,473	3,600	- 3.5
10	0	305	70	1,182	1,268	1,075	3,900	3,900	+ 0.0
11	0	298	77	1,173	1,350	839	3,739	4,100	- 8.8
12	0	319	76	1,188	1,356	855	3,796	4,200	- 9.6
13	0	330	70	1,198	1,342	749	3,690	4,100	- 10.0
14	0	345	77	1,241	1,388	727	3,778	3,800	- 0.6
15	0	324	66	1,057	1,428	786	3,660	3,800	- 3.7
16	0	354	72	1,047	1,461	857	3,791	3,900	- 2.8
17	0	330	81	1,065	1,420	1,299	4,194	4,300	- 2.5
18	0	350	78	946	1,488	1,355	4,216	4,200	+ 0.4
19	6	325	75	758	1,521	1,176	3,861	4,600	- 16.1
20	36	306	66	800	1,465	1,310	3,984	4,300	- 7.3
21	36	250	63	760	1,460	1,159	3,728	3,900	- 4.4
22	36	243	60	706	1,399	1,436	3,879	3,500	+ 10.8
23	36	198	61	660	1,320	1,179	3,453	2,900	+ 19.1
24	36	204	58	636	1,217	775	2,924	2,900	+ 0.8
TOTAL	424	6,235	1,563	20,279	30,817	23,125	82,443	84,100	- 2.0
MIN	0	161	51	494	1,021	533	2,305	2,400	- 17.0
MAX	36	354	81	1,241	1,521	1,464	4,216	4,600	+ 39.6
MEAN	18	260	65	845	1,284	964	3,435	3,504	- 0.6

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Table 4.10 c

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

March 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	29	216	57	454	1,144	651	2,551	2,500	+ 2.0
2	29	188	57	440	1,101	560	2,376	2,400	- 1.0
3	29	200	59	425	1,056	616	2,385	2,400	- 0.6
4	29	188	58	427	1,045	436	2,183	2,400	- 9.0
5	29	173	58	416	1,041	504	2,221	2,700	- 17.8
6	29	171	57	496	1,078	522	2,353	3,200	- 26.5
7	5	220	57	712	1,167	871	3,031	3,500	- 13.4
8	0	273	62	1,144	1,209	897	3,585	3,800	- 5.6
9	0	282	66	1,312	1,271	917	3,847	3,900	- 1.4
10	0	308	73	1,314	1,342	840	3,878	4,100	- 5.4
11	0	295	81	1,294	1,427	767	3,864	4,300	- 10.1
12	0	287	82	1,156	1,454	810	3,789	4,200	- 9.8
13	0	290	71	1,155	1,472	781	3,770	4,300	- 12.3
14	0	332	74	1,178	1,543	703	3,830	3,700	+ 3.5
15	0	336	71	1,045	1,530	861	3,842	3,800	+ 1.1
16	0	335	80	983	1,581	1,082	4,061	3,900	+ 4.1
17	0	334	80	1,007	1,562	1,016	3,998	3,800	+ 5.2
18	0	298	77	896	1,541	1,101	3,913	4,000	- 2.2
19	0	318	69	747	1,575	1,773	4,483	4,400	+ 1.9
20	28	316	66	868	1,583	1,869	4,731	4,200	+ 12.7
21	29	312	65	834	1,566	1,564	4,369	3,900	+ 12.0
22	29	299	64	780	1,552	1,440	4,164	3,500	+ 19.0
23	29	232	63	777	1,418	906	3,426	2,700	+ 26.9
24	29	203	64	742	1,351	821	3,211	2,600	+ 23.5
TOTAL	326	6,405	1,612	20,600	32,610	22,308	83,862	84,200	- 0.4
MIN	0	171	57	416	1,041	436	2,183	2,400	- 26.5
MAX	29	336	82	1,314	1,583	1,869	4,731	4,400	+ 26.9
MEAN	14	267	67	858	1,359	930	3,494	3,508	- 0.1

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Table 4.10 d

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

April 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	30	154	53	399	1,272	1,525	3,433	2,600	+ 32.0
2	30	164	57	403	1,259	733	2,645	2,600	+ 1.7
3	30	144	54	385	1,210	441	2,265	2,600	- 12.9
4	30	163	52	406	1,185	524	2,360	2,600	- 9.2
5	30	161	53	392	1,208	557	2,402	2,800	- 14.2
6	21	159	55	423	1,230	682	2,571	3,200	- 19.6
7	0	167	52	655	1,341	845	3,060	3,600	- 15.0
8	0	183	55	801	1,380	891	3,310	3,800	- 12.9
9	0	202	59	898	1,463	840	3,462	3,800	- 8.9
10	0	268	61	921	1,464	815	3,528	4,000	- 11.8
11	0	251	64	945	1,518	716	3,495	4,000	- 12.6
12	0	254	70	976	1,493	839	3,632	4,100	- 11.4
13	0	265	68	926	1,486	730	3,475	4,100	- 15.2
14	0	275	72	935	1,515	683	3,480	3,800	- 8.4
15	0	267	70	952	1,616	830	3,735	3,900	- 4.2
16	0	263	71	942	1,752	977	4,004	3,800	+ 5.4
17	0	274	72	993	1,768	811	3,919	3,900	+ 0.5
18	0	252	69	960	1,778	1,230	4,289	3,800	+ 12.9
19	0	233	63	766	1,644	1,115	3,821	4,200	- 9.0
20	24	269	63	698	1,749	2,121	4,925	4,000	+ 23.1
21	30	262	65	649	1,643	1,302	3,950	3,600	+ 9.7
22	30	184	58	597	1,610	1,345	3,824	3,500	+ 9.3
23	30	167	54	530	1,562	1,704	4,046	2,800	+ 44.5
24	30	163	57	467	1,375	696	2,788	2,700	+ 3.3
TOTAL	315	5,145	1,465	17,020	35,521	22,953	82,419	83,800	- 1.6
MIN	0	144	52	385	1,185	441	2,265	2,600	- 19.6
MAX	30	275	72	993	1,778	2,121	4,925	4,200	+ 44.5
MEAN	13	214	61	709	1,480	956	3,434	3,492	- 1.0

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Table 4.10 e

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

May 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	38	187	59	497	1,276	1,158	3,216	2,800	+ 14.8
2	38	194	60	480	1,214	1,115	3,101	2,800	+ 10.7
3	38	218	59	475	1,228	553	2,571	2,700	- 4.8
4	38	194	59	503	1,209	529	2,533	2,800	- 9.5
5	38	181	59	501	1,187	508	2,473	2,900	- 14.7
6	16	185	57	542	1,198	717	2,716	3,400	- 20.1
7	0	242	60	793	1,271	818	3,185	3,900	- 18.3
8	0	257	61	1,090	1,339	907	3,654	3,600	+ 1.5
9	0	262	66	1,184	1,351	1,201	4,064	3,700	+ 9.8
10	0	263	68	1,215	1,481	1,150	4,177	4,000	+ 4.4
11	0	288	74	1,196	1,524	1,061	4,144	4,300	- 3.6
12	0	308	78	1,187	1,501	865	3,941	4,300	- 8.4
13	0	293	70	1,168	1,527	785	3,844	4,400	- 12.6
14	0	299	74	1,165	1,552	906	3,997	4,100	- 2.5
15	0	290	73	1,089	1,593	783	3,828	4,000	- 4.3
16	0	284	73	992	1,583	866	3,799	3,700	+ 2.7
17	0	310	75	986	1,583	1,282	4,237	4,000	+ 5.9
18	0	295	74	911	1,590	1,301	4,171	4,100	+ 1.7
19	0	268	73	749	1,548	1,419	4,057	4,100	- 1.0
20	24	294	70	685	1,617	1,335	4,024	3,900	+ 3.2
21	38	299	67	647	1,601	1,011	3,664	3,700	- 1.0
22	38	252	64	615	1,540	1,266	3,775	3,500	+ 7.8
23	38	204	61	586	1,494	1,038	3,421	2,900	+ 18.0
24	38	206	60	579	1,468	690	3,042	2,700	+ 12.7
TOTAL	383	6,076	1,596	19,836	34,474	23,267	85,631	86,300	- 0.8
MIN	0	181	57	475	1,187	508	2,473	2,700	- 20.1
MAX	38	310	78	1,215	1,617	1,419	4,237	4,400	+ 18.0
MEAN	16	253	67	827	1,436	969	3,568	3,596	- 0.3

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Table 4.10 f

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

June 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	32	209	62	446	1,339	1,228	3,316	2,800	+ 18.4
2	32	197	64	420	1,326	660	2,699	2,800	- 3.6
3	32	180	60	407	1,268	663	2,610	2,700	- 3.3
4	32	178	60	402	1,233	464	2,370	2,700	- 12.2
5	32	170	63	407	1,209	571	2,451	3,000	- 18.3
6	12	174	58	435	1,232	639	2,551	3,200	- 20.3
7	0	189	60	641	1,361	817	3,068	3,600	- 14.8
8	0	216	68	798	1,392	844	3,319	3,800	- 12.7
9	0	228	72	955	1,496	1,020	3,772	3,900	- 3.3
10	0	258	78	1,081	1,582	969	3,968	4,500	- 11.8
11	0	283	87	1,075	1,635	759	3,838	4,400	- 12.8
12	0	302	89	1,103	1,687	830	4,010	4,500	- 10.9
13	0	297	80	1,040	1,694	746	3,857	4,500	- 14.3
14	0	299	85	1,093	1,670	942	4,089	4,200	- 2.6
15	0	299	81	968	1,747	937	4,031	4,200	- 4.0
16	0	280	88	962	1,791	740	3,862	4,300	- 10.2
17	0	283	89	893	1,777	878	3,919	4,300	- 8.9
18	0	276	80	831	1,735	857	3,779	4,400	- 14.1
19	0	246	79	736	1,720	1,012	3,794	4,300	- 11.8
20	14	237	74	661	1,775	1,851	4,611	4,200	+ 9.8
21	32	265	69	559	1,714	1,984	4,623	4,000	+ 15.6
22	32	248	65	529	1,671	1,555	4,100	3,600	+ 13.9
23	32	213	63	531	1,669	1,438	3,946	3,200	+ 23.3
24	32	219	62	514	1,420	770	3,017	2,900	+ 4.0
TOTAL	314	5,746	1,736	17,486	37,143	23,176	85,601	90,000	- 4.9
MIN	0	170	58	402	1,209	464	2,370	2,700	- 20.3
MAX	32	302	89	1,103	1,791	1,984	4,623	4,500	+ 23.3
MEAN	13	239	72	729	1,548	966	3,567	3,750	- 4.4

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Table 4.10 g

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

July 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	32	215	54	464	1,282	888	2,935	2,800	+ 4.8
2	32	216	59	457	1,278	639	2,681	2,700	- 0.7
3	32	206	57	453	1,224	605	2,578	2,600	- 0.9
4	32	177	57	447	1,214	595	2,521	2,700	- 6.6
5	32	174	62	462	1,216	513	2,460	2,800	- 12.2
6	16	176	57	482	1,237	627	2,595	3,200	- 18.9
7	0	216	57	637	1,276	1,077	3,264	3,700	- 11.8
8	0	242	69	978	1,376	983	3,647	3,700	- 1.4
9	0	265	73	1,119	1,440	910	3,808	3,900	- 2.4
10	0	281	72	1,155	1,473	800	3,781	4,500	- 16.0
11	0	284	76	1,207	1,523	810	3,900	4,400	- 11.4
12	0	277	74	1,201	1,627	945	4,123	4,500	- 8.4
13	0	264	68	1,154	1,618	1,128	4,233	4,400	- 3.8
14	0	298	77	1,180	1,648	773	3,976	4,200	- 5.3
15	0	299	73	1,041	1,619	1,041	4,073	4,100	- 0.7
16	0	300	75	995	1,606	1,387	4,364	4,200	+ 3.9
17	0	302	78	1,019	1,585	1,365	4,349	4,300	+ 1.1
18	0	270	76	940	1,607	1,673	4,566	4,500	+ 1.5
19	0	260	73	784	1,641	1,618	4,376	4,600	- 4.9
20	13	260	73	676	1,670	1,433	4,125	4,400	- 6.2
21	32	254	71	613	1,673	1,532	4,175	4,000	+ 4.4
22	32	250	62	587	1,603	1,281	3,816	3,800	+ 0.4
23	32	216	62	554	1,545	1,140	3,550	3,200	+ 10.9
24	32	216	61	514	1,420	818	3,062	3,100	- 1.2
TOTAL	319	5,918	1,618	19,118	35,402	24,580	86,956	90,300	- 3.7
MIN	0	174	54	447	1,214	513	2,460	2,600	- 18.9
MAX	32	302	78	1,207	1,673	1,673	4,566	4,600	+ 10.9
MEAN	13	247	67	797	1,475	1,024	3,623	3,763	- 3.6

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Table 4.10 h

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

August 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	37	215	59	524	1,404	623	2,861	2,600	+ 10.1
2	37	193	65	507	1,360	468	2,630	2,400	+ 9.6
3	37	182	62	472	1,331	422	2,505	2,400	+ 4.4
4	37	181	60	470	1,290	521	2,559	2,400	+ 6.6
5	37	178	63	462	1,254	466	2,460	2,700	- 8.9
6	25	175	57	511	1,266	631	2,665	3,000	- 11.2
7	0	220	59	799	1,349	799	3,225	3,500	- 7.8
8	0	229	69	994	1,387	994	3,673	3,600	+ 2.0
9	0	252	71	1,004	1,454	951	3,733	3,800	- 1.8
10	0	286	71	1,198	1,611	1,172	4,339	4,200	+ 3.3
11	0	294	80	1,249	1,644	1,066	4,333	4,400	- 1.5
12	0	314	81	1,244	1,700	828	4,166	4,000	+ 4.2
13	0	319	72	1,207	1,662	936	4,197	3,600	+ 16.6
14	0	305	79	1,043	968	920	3,315	3,900	- 15.0
15	0	288	79	1,049	1,189	1,005	3,611	4,200	- 14.0
16	0	287	82	1,081	1,302	1,061	3,812	4,200	- 9.2
17	0	277	83	1,081	1,424	1,290	4,155	4,200	- 1.1
18	0	262	79	995	1,806	1,115	4,257	4,300	- 1.0
19	0	269	72	825	1,775	1,650	4,590	4,300	+ 6.7
20	24	264	75	751	1,796	1,465	4,375	4,100	+ 6.7
21	37	264	70	782	1,787	1,136	4,075	3,800	+ 7.2
22	37	257	69	697	1,730	1,372	4,161	3,800	+ 9.5
23	37	226	67	616	1,670	850	3,466	3,100	+ 11.8
24	37	217	67	569	1,533	631	3,055	3,000	+ 1.8
TOTAL	380	5,954	1,691	20,130	35,691	22,372	86,218	85,500	+ 0.8
MIN	0	175	57	462	968	422	2,460	2,400	- 15.0
MAX	37	319	83	1,249	1,806	1,650	4,590	4,400	+ 16.6
MEAN	16	248	70	839	1,487	932	3,592	3,563	+ 1.2

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Table 4.10 i

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

September 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	30	173	61	534	1,427	728	2,954	3,000	- 1.5
2	30	177	66	540	1,395	944	3,153	2,900	+ 8.7
3	30	176	63	543	1,381	693	2,886	3,000	- 3.8
4	30	171	61	529	1,375	850	3,015	3,000	+ 0.5
5	30	176	63	518	1,370	754	2,911	3,200	- 9.0
6	25	181	59	566	1,416	706	2,953	3,200	- 7.7
7	0	187	58	757	1,485	769	3,256	3,800	- 14.3
8	0	189	70	980	1,497	1,017	3,753	3,800	- 1.2
9	0	218	76	1,180	1,560	1,050	4,083	4,000	+ 2.1
10	0	210	79	1,323	1,574	1,019	4,205	4,400	- 4.4
11	0	240	83	1,361	1,621	1,196	4,502	4,500	+ 0.1
12	0	245	86	1,352	1,614	1,033	4,330	4,400	- 1.6
13	0	246	80	1,325	1,632	1,178	4,461	4,300	+ 3.7
14	0	272	85	1,361	1,660	1,266	4,644	4,100	+ 13.3
15	0	262	82	1,245	1,671	1,164	4,423	4,200	+ 5.3
16	0	250	87	1,079	1,736	1,171	4,323	4,300	+ 0.5
17	0	239	87	1,097	1,724	1,328	4,475	4,400	+ 1.7
18	0	206	80	1,074	1,696	1,508	4,564	4,000	+ 14.1
19	3	228	75	858	1,686	1,224	4,074	4,000	+ 1.8
20	30	226	77	727	1,727	1,312	4,099	3,900	+ 5.1
21	30	214	75	749	1,719	1,195	3,982	3,700	+ 7.6
22	30	189	67	885	1,702	1,120	3,994	3,400	+ 17.5
23	30	177	65	833	1,632	963	3,700	3,100	+ 19.4
24	30	179	62	788	1,525	933	3,518	2,900	+ 21.3
TOTAL	333	5,032	1,744	22,204	37,825	25,121	92,259	89,500	+ 3.1
MIN	0	171	58	518	1,370	693	2,886	2,900	- 14.3
MAX	30	272	87	1,361	1,736	1,508	4,644	4,500	+ 21.3
MEAN	14	210	73	925	1,576	1,047	3,844	3,729	+ 3.3

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Table 4.10 j

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

October 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	26	224	56	596	1,375	704	2,982	2,900	+ 2.8
2	26	223	61	568	1,349	736	2,963	2,900	+ 2.2
3	26	210	60	511	1,323	702	2,832	2,800	+ 1.1
4	26	181	63	495	1,319	596	2,679	2,900	- 7.6
5	26	178	62	478	1,331	763	2,837	3,100	- 8.5
6	25	184	59	496	1,358	820	2,941	3,300	- 10.9
7	0	201	57	632	1,455	796	3,141	3,800	- 17.3
8	0	199	73	958	1,485	790	3,504	3,800	- 7.8
9	0	243	71	1,172	1,533	826	3,845	3,900	- 1.4
10	0	275	74	1,189	1,559	1,146	4,244	4,300	- 1.3
11	0	282	81	1,147	1,548	908	3,965	4,400	- 9.9
12	0	285	86	1,169	1,581	1,424	4,545	4,500	+ 1.0
13	0	283	77	1,155	1,576	1,034	4,126	4,100	+ 0.6
14	0	295	83	1,117	1,567	1,061	4,123	4,100	+ 0.5
15	0	290	80	1,042	1,632	873	3,918	3,900	+ 0.5
16	0	297	80	1,058	1,625	958	4,018	4,000	+ 0.5
17	0	267	80	967	1,644	994	3,952	4,100	- 3.6
18	0	267	79	919	1,611	942	3,817	4,000	- 4.6
19	14	279	69	731	1,628	1,355	4,076	4,200	- 3.0
20	26	254	70	645	1,668	1,947	4,608	4,000	+ 15.2
21	26	232	68	570	1,667	1,664	4,227	3,600	+ 17.4
22	26	256	66	592	1,598	1,243	3,780	3,000	+ 26.0
23	26	228	62	535	1,524	876	3,251	2,800	+ 16.1
24	26	222	60	481	1,416	646	2,852	2,800	+ 1.8
TOTAL	296	5,853	1,677	19,221	36,374	23,804	87,225	87,200	+ 0.0
MIN	0	178	56	478	1,319	596	2,679	2,800	- 17.3
MAX	26	297	86	1,189	1,668	1,947	4,608	4,500	+ 26.0
MEAN	12	244	70	801	1,516	992	3,634	3,633	+ 0.4

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Table 4.10 k

TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

November 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	32	197	60	463	1,311	766	2,829	2,600	+ 8.8
2	32	194	63	462	1,301	565	2,618	2,500	+ 4.7
3	32	196	65	438	1,279	639	2,649	2,500	+ 6.0
4	32	193	65	447	1,258	591	2,586	2,500	+ 3.4
5	32	187	65	462	1,280	733	2,759	2,700	+ 2.2
6	32	194	60	583	1,370	659	2,900	3,000	- 3.3
7	7	189	59	745	1,428	673	3,101	3,600	- 13.9
8	0	193	64	850	1,505	983	3,595	3,800	- 5.4
9	0	186	67	845	1,533	1,663	4,294	4,000	+ 7.4
10	0	182	66	868	1,607	1,463	4,185	4,500	- 7.0
11	0	185	66	892	1,666	1,313	4,122	4,600	- 10.4
12	0	192	71	877	1,640	1,157	3,937	4,100	- 4.0
13	0	193	64	922	1,614	1,393	4,187	4,300	- 2.6
14	0	206	66	909	1,682	1,553	4,415	4,300	+ 2.7
15	0	204	66	906	1,692	1,432	4,301	4,400	- 2.3
16	0	209	66	890	1,755	1,270	4,190	4,500	- 6.9
17	0	208	66	896	1,760	1,454	4,385	4,500	- 2.6
18	0	245	61	879	1,762	1,650	4,597	4,600	- 0.1
19	26	248	60	685	1,792	1,173	3,984	4,200	- 5.1
20	32	211	64	598	1,748	1,159	3,813	4,000	- 4.7
21	32	202	62	574	1,707	1,418	3,996	3,800	+ 5.2
22	32	199	60	523	1,626	1,611	4,052	3,600	+ 12.6
23	32	195	62	498	1,484	1,206	3,477	3,100	+ 12.2
24	32	188	57	458	1,367	967	3,070	3,100	- 1.0
TOTAL	388	4,797	1,525	16,674	37,168	27,492	88,043	88,800	- 0.9
MIN	0	182	57	438	1,258	565	2,586	2,500	- 13.9
MAX	32	248	71	922	1,792	1,663	4,597	4,600	+ 12.6
MEAN	16	200	64	695	1,549	1,145	3,668	3,700	- 0.2

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Table 4.10 I

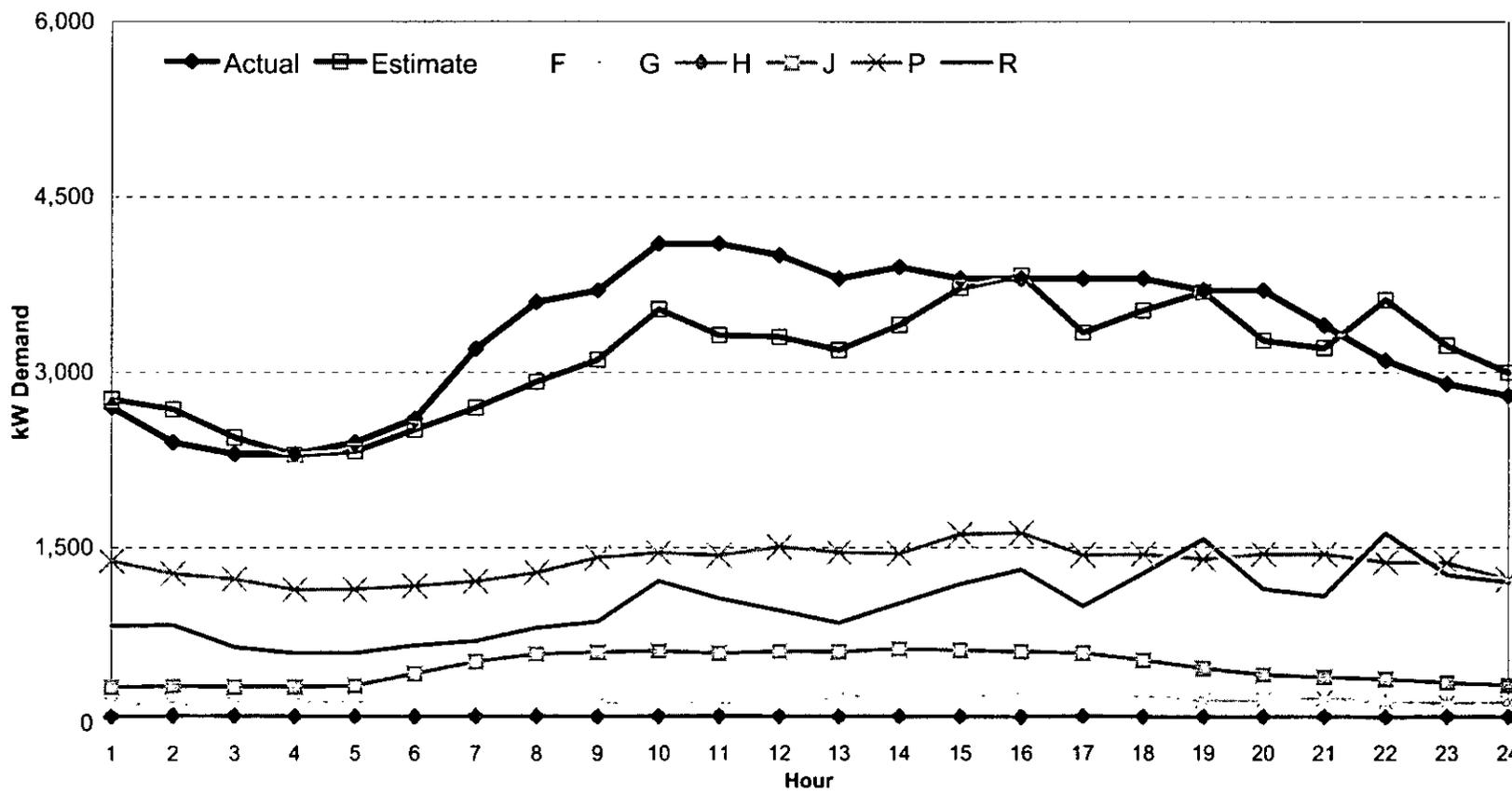
TOTAL SYSTEM HOURLY LOAD PROFILE ON THE DAY OF THE DAYTIME PEAK
Non-normalized at the Gross Generation Level

December 2005

HOUR	F	G	H	J	P	R	Constructed System Total	Actual System Total	Percent Error
1	25	218	53	584	1,384	602	2,865	3,000	-4.5
2	25	197	57	516	1,335	598	2,728	2,800	-2.6
3	25	198	55	476	1,331	546	2,631	2,800	-6.0
4	25	180	58	449	1,341	623	2,676	2,800	-4.4
5	25	179	54	468	1,350	601	2,676	3,100	-13.7
6	25	186	53	619	1,432	790	3,106	3,400	-8.6
7	13	205	59	766	1,517	1,093	3,652	3,600	+1.4
8	0	217	64	815	1,529	854	3,479	3,700	-6.0
9	0	254	64	959	1,629	973	3,880	3,800	+2.1
10	0	259	70	1,138	1,713	968	4,147	3,900	+6.3
11	0	275	76	1,167	1,680	1,052	4,250	4,000	+6.3
12	0	299	78	1,156	1,684	973	4,190	3,900	+7.4
13	0	291	71	1,172	1,711	914	4,160	3,900	+6.7
14	0	317	70	1,031	1,725	993	4,136	3,900	+6.0
15	0	289	76	1,009	1,757	982	4,113	3,800	+8.2
16	0	287	74	997	1,794	1,054	4,206	3,900	+7.8
17	0	289	76	984	1,760	1,176	4,285	4,000	+7.1
18	0	269	71	908	1,888	1,392	4,529	4,200	+7.8
19	19	276	66	718	1,816	1,374	4,269	4,200	+1.6
20	25	257	67	633	1,811	1,432	4,225	4,000	+5.6
21	25	226	62	592	1,747	1,382	4,034	3,700	+9.0
22	25	227	57	540	1,654	1,163	3,667	3,200	+14.6
23	25	195	58	513	1,554	1,409	3,754	2,800	+34.1
24	25	197	54	473	1,452	919	3,120	2,600	+20.0
TOTAL	310	5,788	1,543	18,682	38,594	23,861	88,778	85,000	+4.4
MIN	0	179	53	449	1,331	546	2,631	2,600	-13.7
MAX	25	317	78	1,172	1,888	1,432	4,529	4,200	+34.1
MEAN	13	241	64	778	1,608	994	3,699	3,542	+4.4

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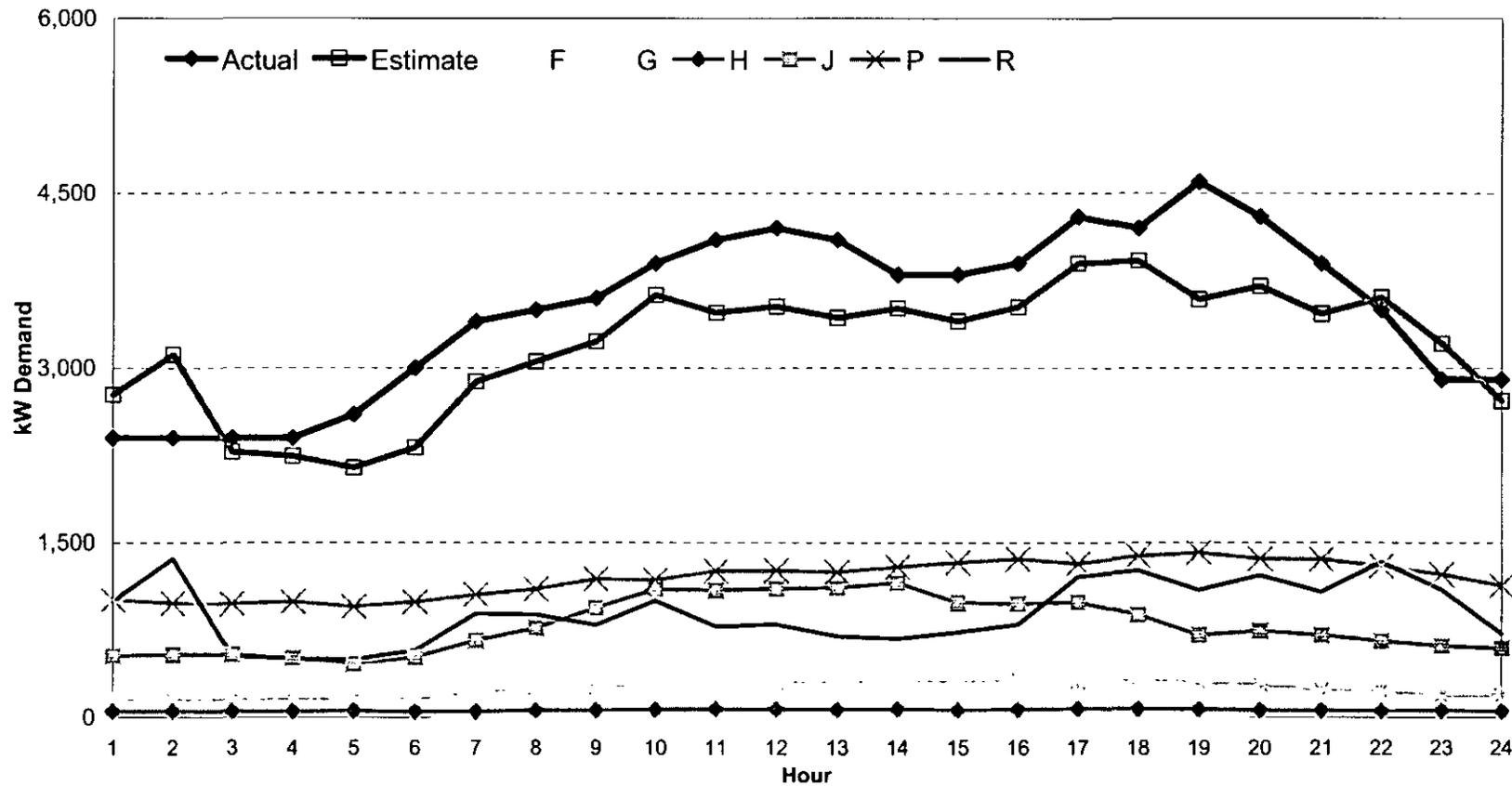
Exhibit 4.8 a
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 January 2005



The sample estimate is at the sales level, and not normalized.

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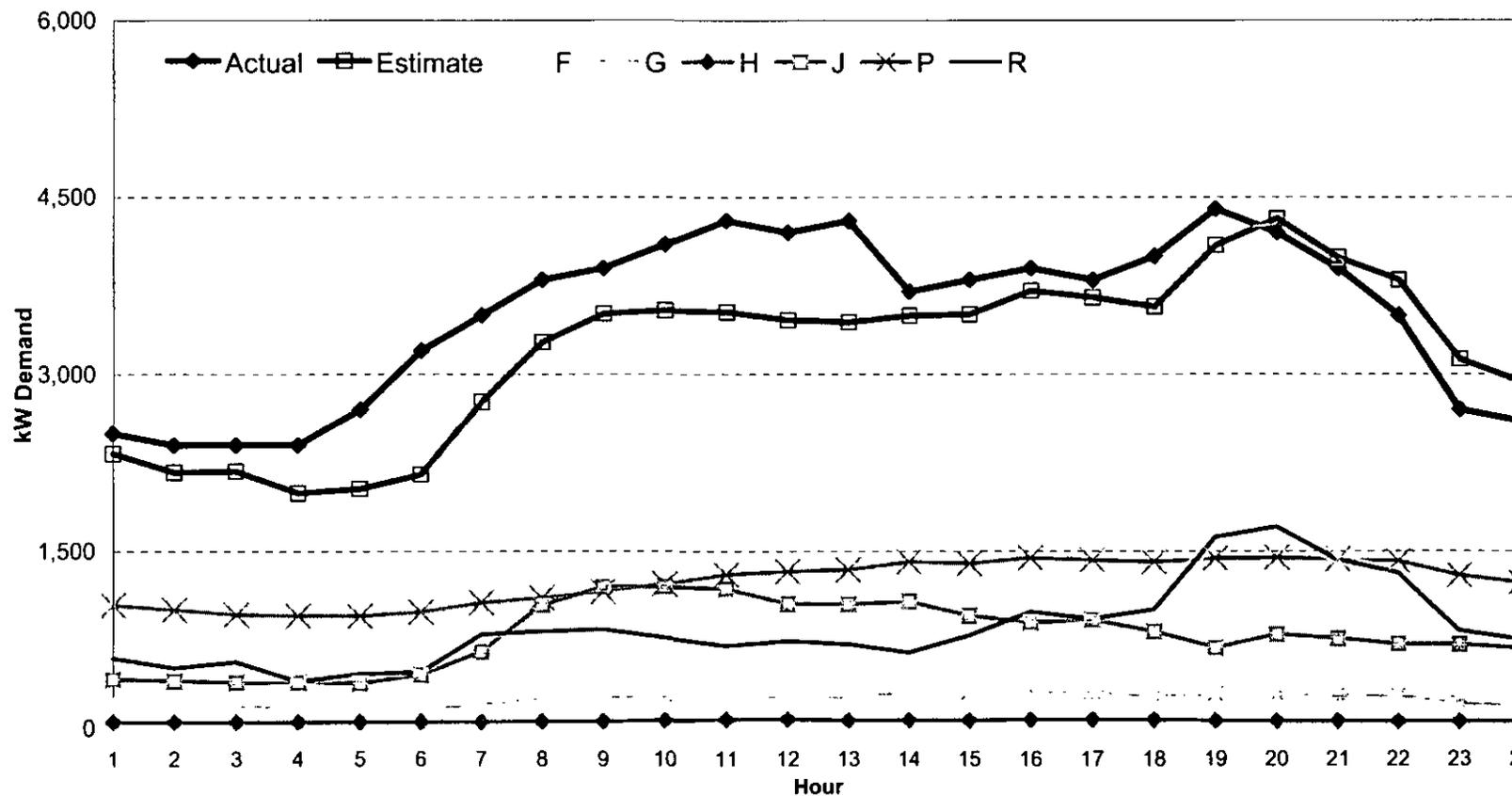
Exhibit 4.8 b
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 February 2005



The sample estimate is at the sales level, and not normalized.

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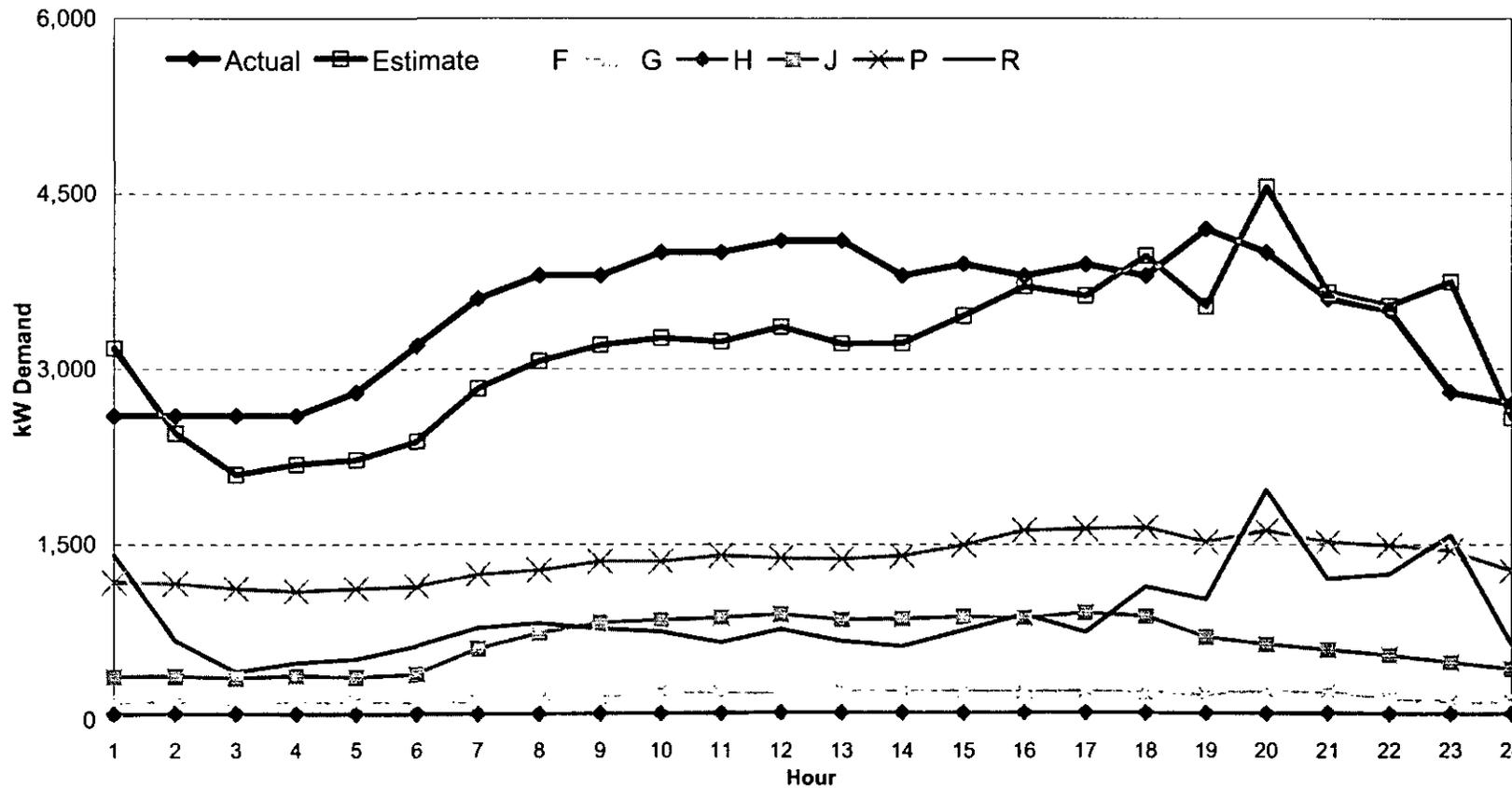
Exhibit 4.8 c
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 March 2005



The sample estimate is at the sales level, and not normalized.

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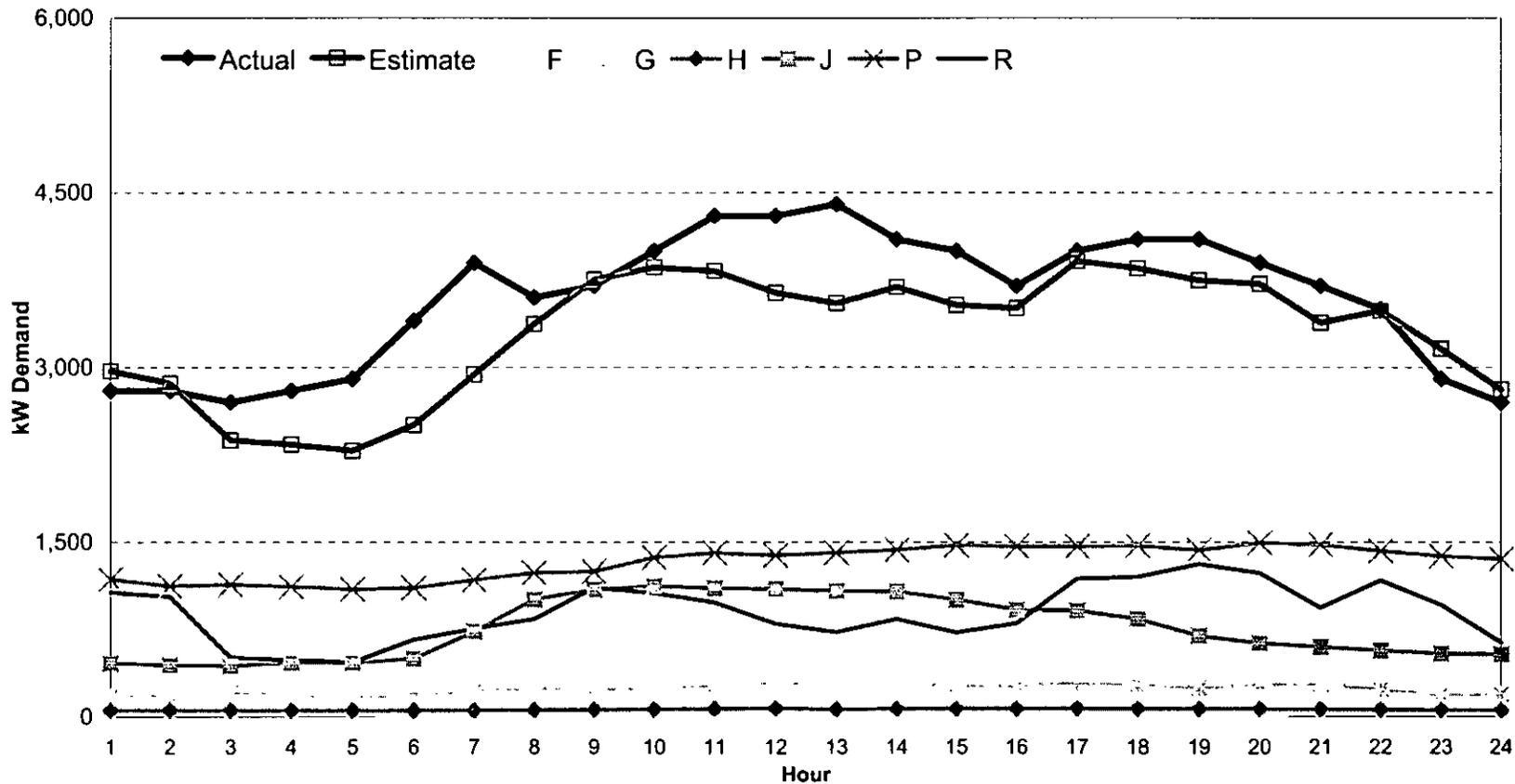
Exhibit 4.8 d
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 April 2005



The sample estimate is at the sales level, and not normalized.

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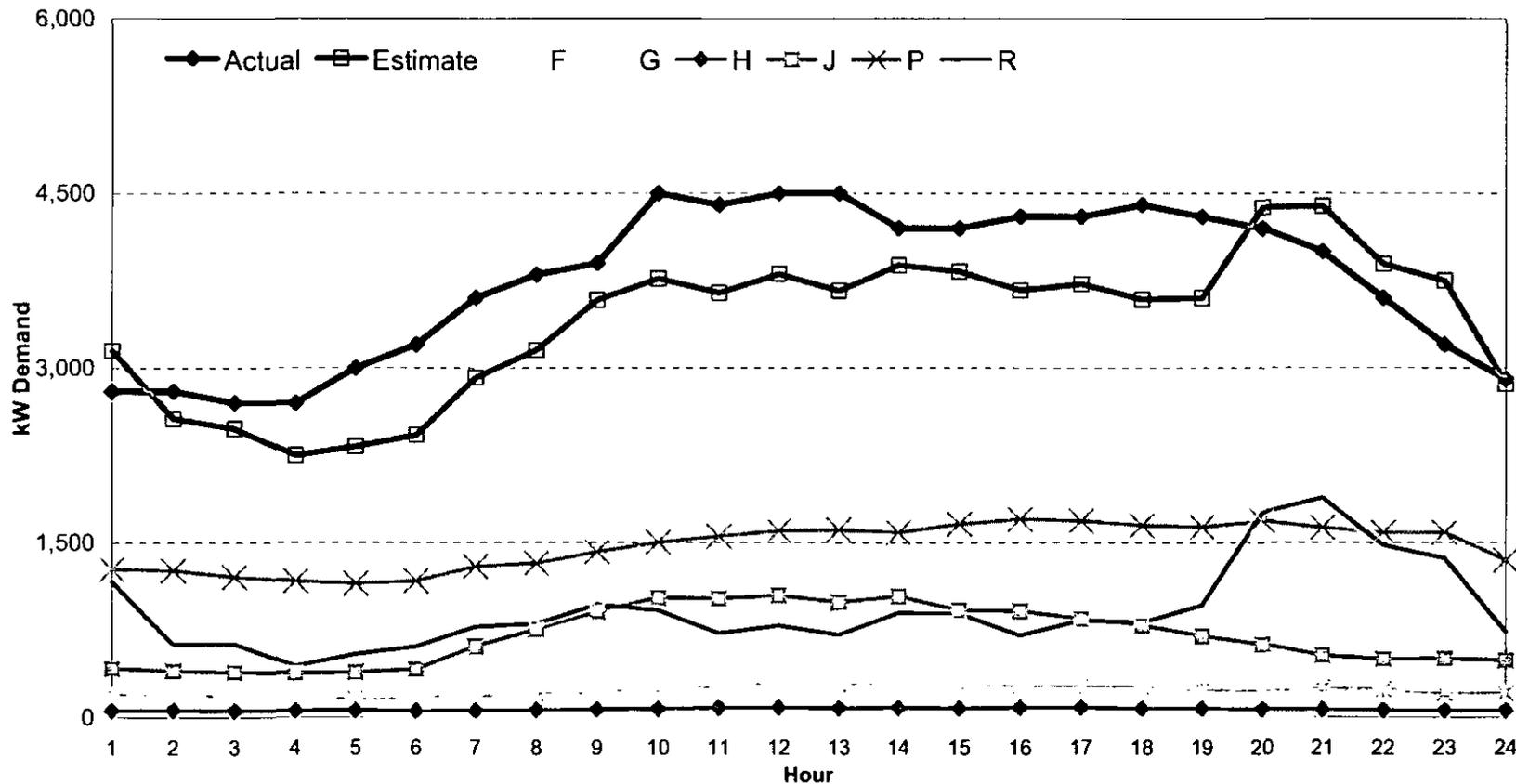
Exhibit 4.8 e
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 May 2005



The sample estimate is at the sales level, and not normalized.

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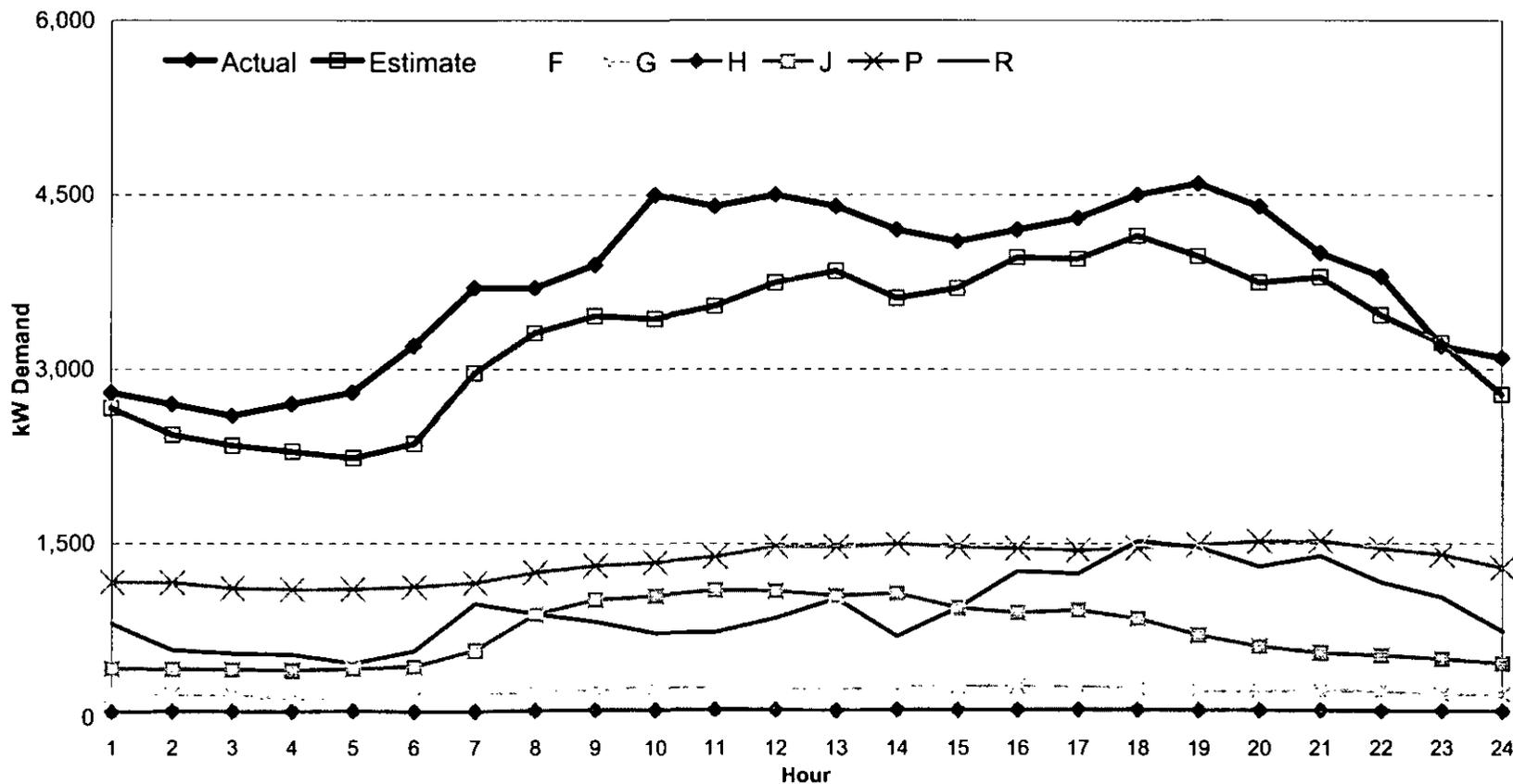
Exhibit 4.8 f
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 June 2005



The sample estimate is at the sales level, and not normalized.

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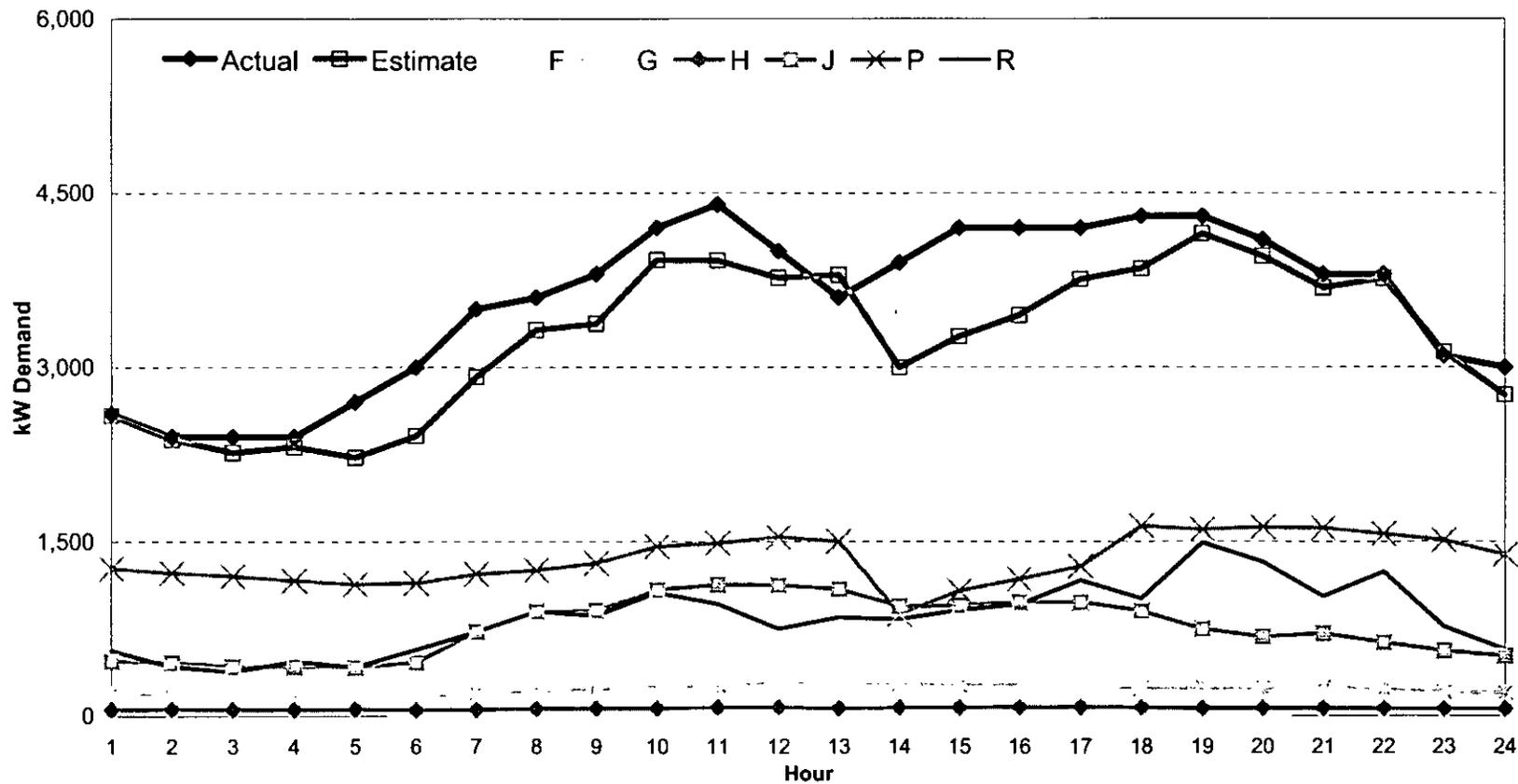
Exhibit 4.8 g
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 July 2005



The sample estimate is at the sales level, and not normalized.

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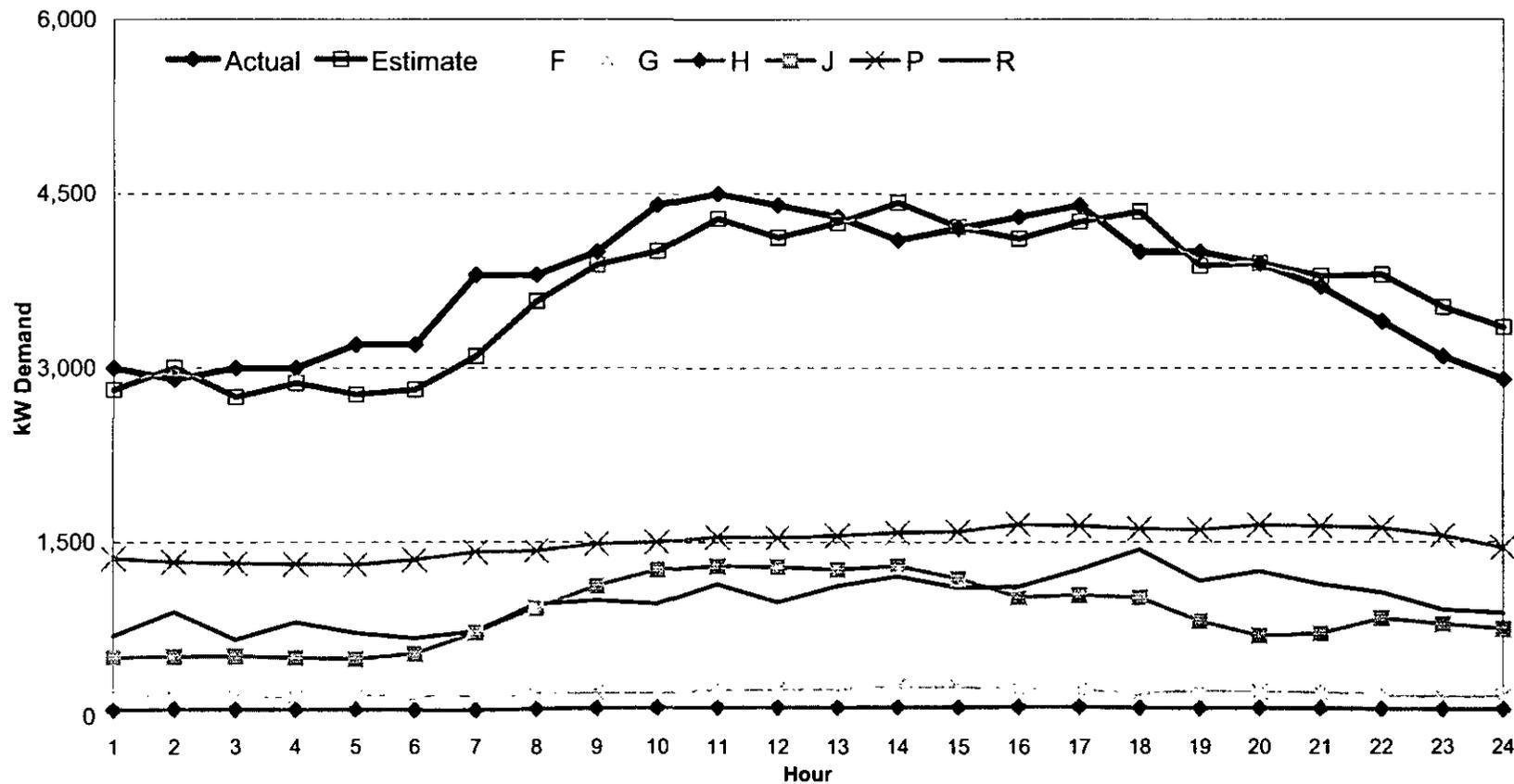
Exhibit 4.8 h
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 August 2005



The sample estimate is at the sales level, and not normalized.

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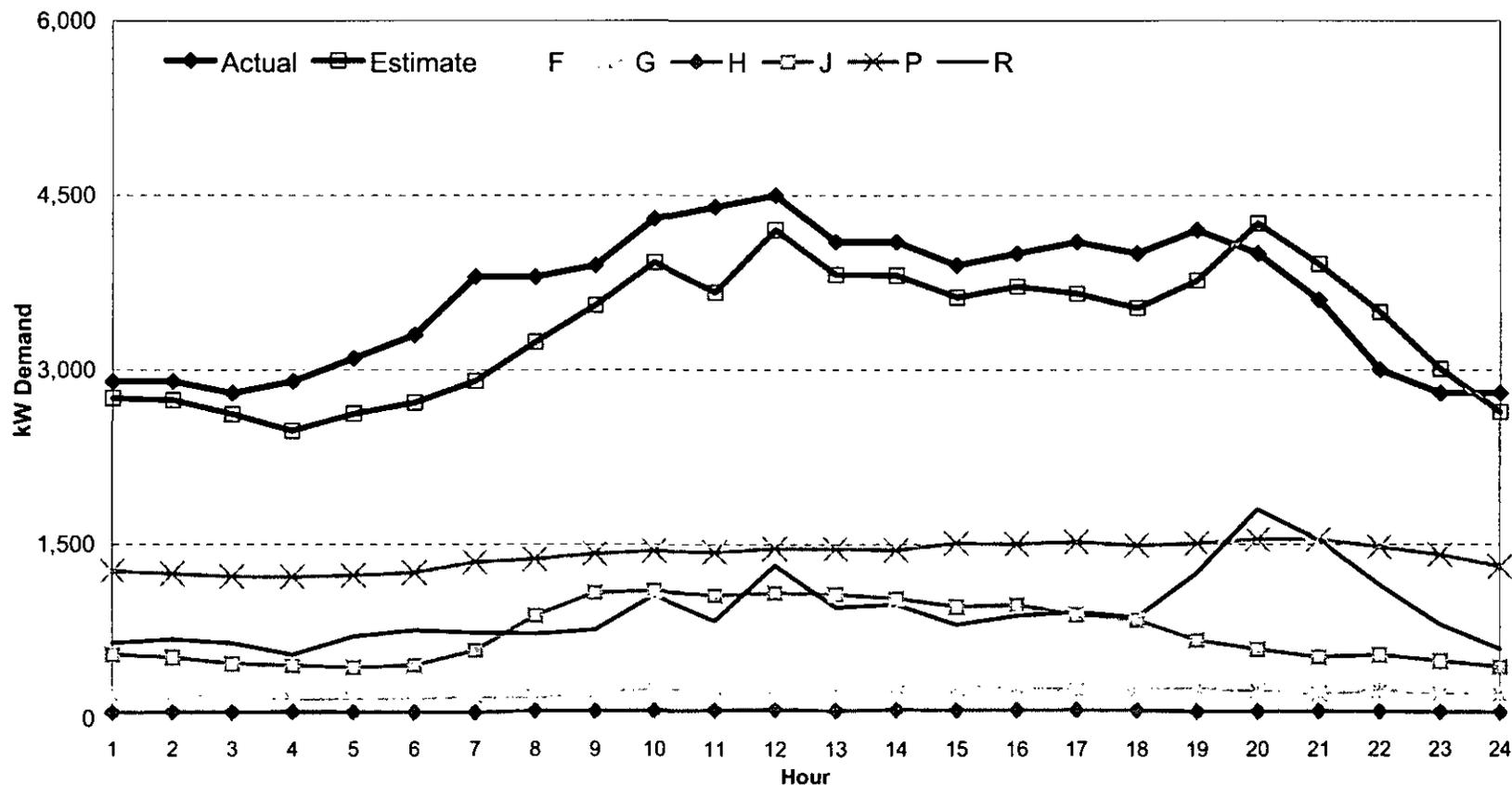
Exhibit 4.8 i
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 September 2005



The sample estimate is at the sales level, and not normalized.

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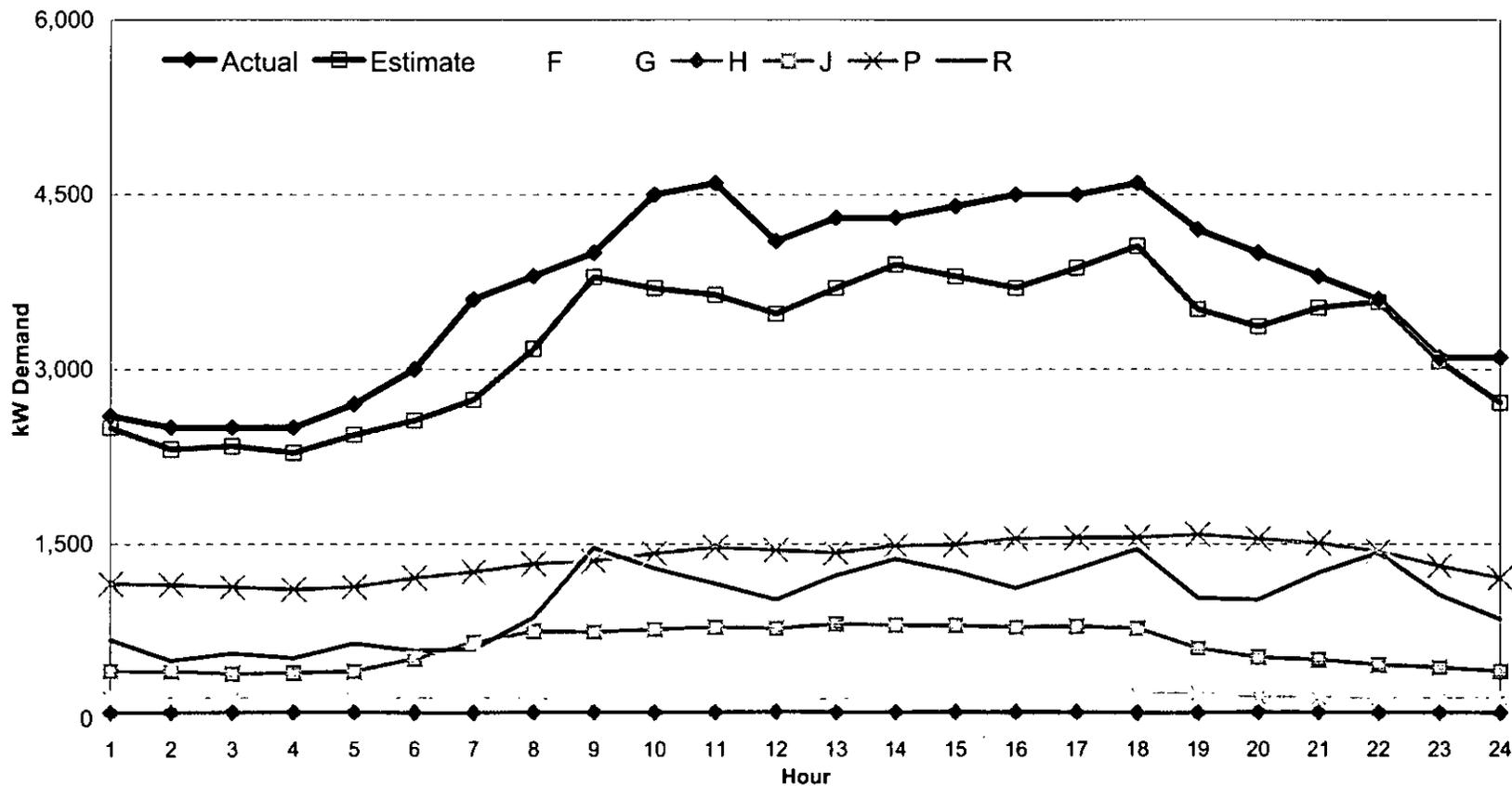
Exhibit 4.8 j
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 October 2005



The sample estimate is at the sales level, and not normalized.

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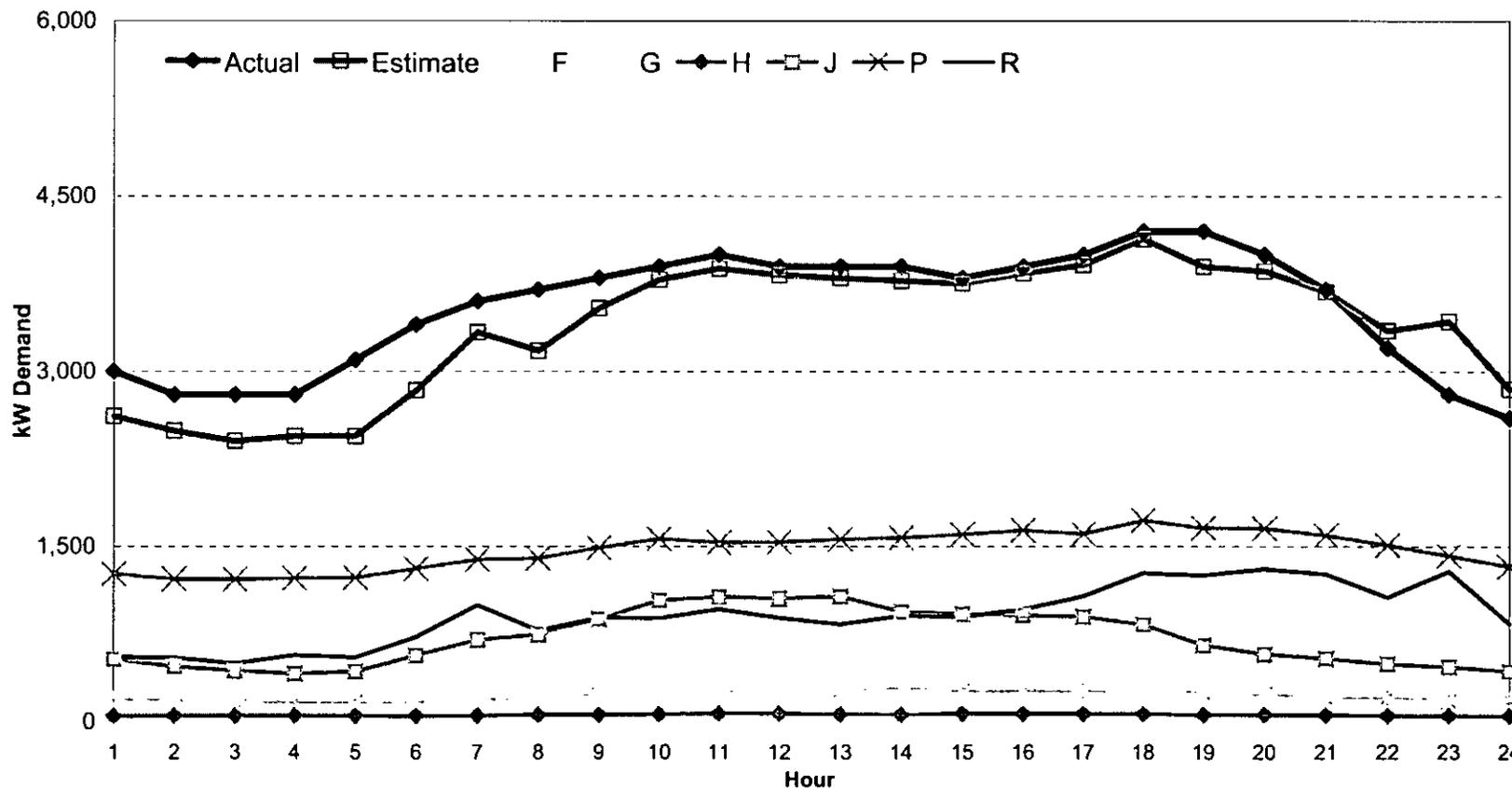
Exhibit 4.8 k
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 November 2005



The sample estimate is at the sales level, and not normalized.

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Exhibit 4.8 I
 TOTAL SYSTEM HOURLY LOAD FOR THE DAY OF THE DAYTIME PEAK
 Actual vs Sample Estimate
 December 2005



The sample estimate is at the sales level, and not normalized.

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Table 4.11
DAYS AND HOURS OF THE 2005 CLASS PEAK DEMANDS

Rate	Peak Day	Day of the Week	Time-of-Use Period	During the Hour Ending at
F	May 1, 2005	Every Night	On-peak	
G	September 27, 2005	Tuesday	On-peak	Noon
H	June 24, 2005	Friday	On-peak	4:00 PM
J	September 10, 2005	Saturday	On-peak	9:00 AM
P	December 31, 2005	Saturday	On-peak	7:00 PM
R	February 7, 2005	Monday	Priority peak	8:00 PM
Total System	December 27, 2005	Tuesday	Priority peak	7:00 PM

Time-of-Use Period Definition:		
Priority Peak:	5 pm - 9 pm	Monday through Friday
On-peak:	7 am - 5 pm	Monday through Friday
	7 am - 9 pm	Saturday and Sunday
Off-peak:	9 pm - 7 am	Daily

Notes:

The rate classes' peak days are derived from the study data.

Schedule F is constructed such that each day is an average day; May was its peak month.

The total system data is the actual recorded instantaneous system peak in 2005.

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Table 4.12

AVERAGE WEEKDAY PROFILES FOR THE TOTAL SYSTEM, NORMALIZED AT THE GROSS LEVEL
60-Minute Integrated kW Demand

Hour	January	February	March	April	May	June	July	August	September	October	November	December
1	2,398	2,452	2,420	2,559	2,672	2,675	2,827	2,699	2,723	2,735	2,748	2,734
2	2,358	2,399	2,411	2,521	2,595	2,582	2,728	2,640	2,642	2,683	2,663	2,675
3	2,308	2,404	2,329	2,466	2,537	2,540	2,678	2,590	2,623	2,649	2,653	2,651
4	2,368	2,426	2,388	2,511	2,576	2,596	2,713	2,640	2,684	2,697	2,649	2,670
5	2,569	2,691	2,643	2,770	2,777	2,787	2,862	2,853	2,903	2,912	2,889	2,891
6	3,044	3,121	3,034	3,225	3,213	3,129	3,230	3,225	3,327	3,240	3,310	3,332
7	3,368	3,450	3,394	3,546	3,663	3,531	3,644	3,620	3,746	3,626	3,651	3,660
8	3,409	3,413	3,430	3,536	3,672	3,620	3,745	3,670	3,689	3,617	3,676	3,684
9	3,494	3,498	3,485	3,632	3,715	3,779	3,843	3,792	3,793	3,731	3,796	3,856
10	3,695	3,694	3,771	3,781	3,959	4,027	4,091	4,064	4,117	4,027	4,147	4,037
11	3,735	3,742	3,740	3,752	4,022	4,036	4,141	4,105	4,127	4,074	4,102	4,017
12	3,680	3,689	3,744	3,790	4,041	4,017	4,181	4,032	4,160	4,060	4,092	3,968
13	3,645	3,615	3,594	3,766	3,993	3,999	4,047	4,014	4,008	4,069	4,057	4,013
14	3,590	3,593	3,526	3,709	3,935	3,919	4,057	3,933	3,939	3,950	3,947	4,032
15	3,620	3,556	3,544	3,766	3,945	3,900	4,007	3,933	3,974	3,955	3,987	4,062
16	3,695	3,625	3,608	3,810	3,969	3,966	4,062	3,937	3,989	4,027	3,997	4,111
17	3,740	3,774	3,653	3,881	3,979	3,971	4,126	3,992	4,041	4,055	4,067	4,233
18	4,027	3,864	3,831	4,011	4,103	4,079	4,206	4,073	4,208	4,174	4,373	4,551
19	4,037	4,087	4,044	4,159	4,247	4,186	4,271	4,232	4,312	4,146	4,258	4,527
20	3,725	3,795	3,776	3,953	4,074	4,074	4,211	4,078	4,070	3,922	3,962	4,228
21	3,459	3,551	3,539	3,666	3,835	3,826	3,922	3,792	3,717	3,622	3,676	3,949
22	3,107	3,185	3,235	3,364	3,471	3,503	3,648	3,475	3,403	3,350	3,385	3,532
23	2,680	2,734	2,734	2,842	2,987	2,979	3,121	3,012	2,999	3,035	3,014	3,106
24	2,534	2,527	2,580	2,698	2,825	2,829	2,977	2,867	2,903	2,878	2,868	2,895
MIN	2,308	2,399	2,329	2,466	2,537	2,540	2,678	2,590	2,623	2,649	2,649	2,651
MAX	4,037	4,087	4,044	4,159	4,247	4,186	4,271	4,232	4,312	4,174	4,373	4,551
MEAN	3,262	3,287	3,269	3,405	3,533	3,523	3,639	3,553	3,587	3,551	3,582	3,642
Avg/Day	78,283	78,885	78,455	81,715	84,804	84,549	87,336	85,266	86,096	85,235	85,965	87,413

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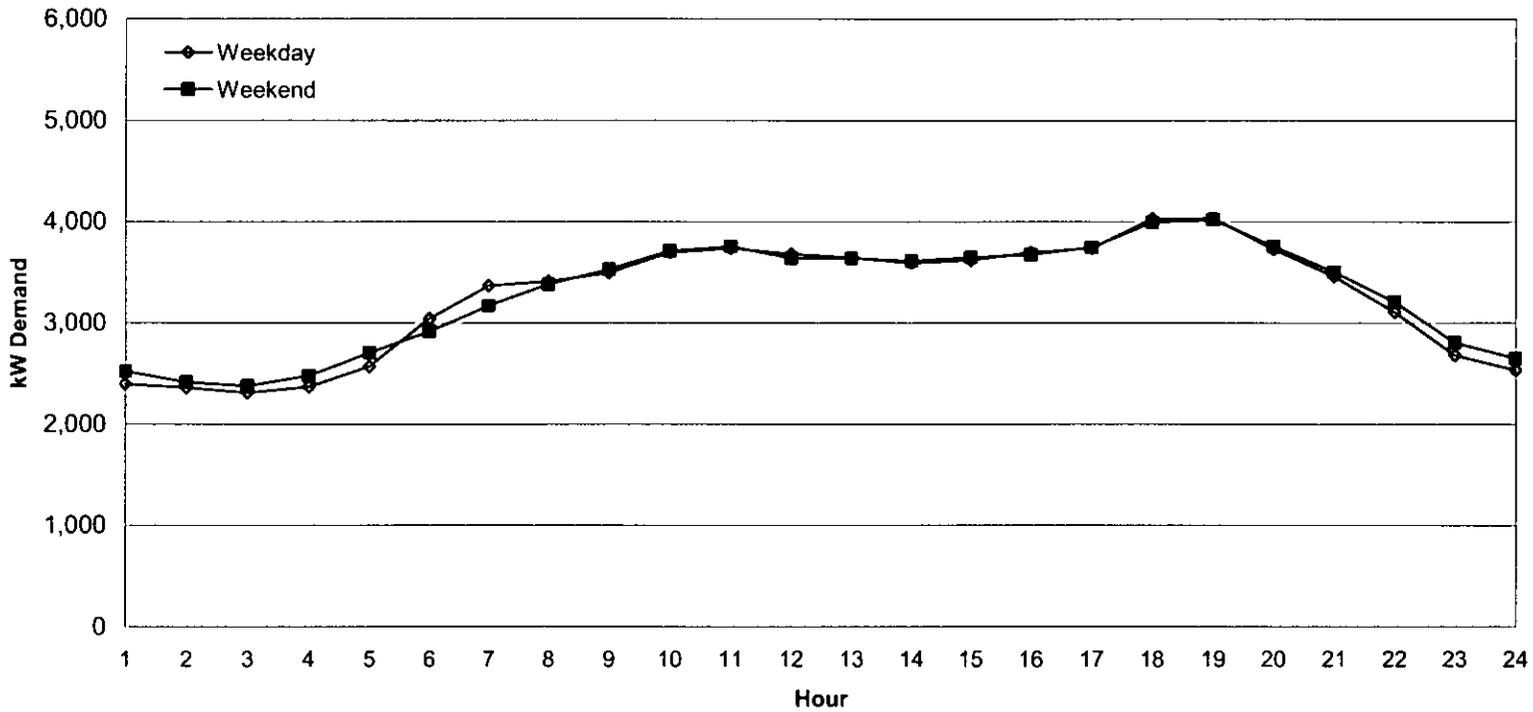
Table 4.13

AVERAGE WEEKEND PROFILES FOR THE TOTAL SYSTEM, NORMALIZED AT THE GROSS LEVEL
60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	2,523	2,465	2,569	2,616	2,644	2,739	2,787	2,761	2,832	2,672	2,688	2,819
2	2,413	2,420	2,447	2,538	2,583	2,608	2,661	2,694	2,765	2,652	2,648	2,716
3	2,377	2,387	2,435	2,516	2,534	2,510	2,615	2,628	2,743	2,592	2,608	2,665
4	2,477	2,409	2,447	2,538	2,554	2,554	2,652	2,661	2,753	2,602	2,588	2,685
5	2,706	2,633	2,647	2,661	2,684	2,728	2,760	2,805	2,899	2,762	2,768	2,840
6	2,916	2,869	2,925	2,918	2,906	2,979	3,059	3,038	3,125	2,922	2,999	3,128
7	3,172	3,126	3,092	3,198	3,221	3,197	3,376	3,349	3,454	3,202	3,266	3,395
8	3,382	3,216	3,292	3,332	3,438	3,339	3,475	3,526	3,576	3,462	3,420	3,601
9	3,528	3,485	3,514	3,433	3,630	3,525	3,584	3,670	3,709	3,653	3,621	3,766
10	3,711	3,664	3,748	3,647	3,831	3,732	3,828	3,914	4,009	3,873	3,992	4,043
11	3,757	3,552	3,681	3,656	3,921	3,863	3,891	3,992	4,109	3,913	3,952	4,064
12	3,638	3,586	3,770	3,679	3,911	3,754	3,891	4,003	4,098	3,833	3,881	4,023
13	3,638	3,575	3,503	3,712	3,851	3,743	3,873	3,847	3,965	3,923	3,952	4,013
14	3,611	3,586	3,459	3,690	3,770	3,667	3,855	3,781	3,809	3,823	3,952	3,941
15	3,647	3,563	3,503	3,712	3,810	3,710	3,919	3,803	3,865	3,823	3,942	4,013
16	3,675	3,675	3,470	3,712	3,881	3,688	3,882	3,847	3,887	3,863	4,002	4,033
17	3,748	3,687	3,603	3,846	3,911	3,776	3,964	3,870	3,965	3,913	4,042	4,074
18	3,994	3,899	3,759	3,958	3,991	3,950	4,082	3,992	4,020	4,003	4,343	4,403
19	4,022	4,090	3,970	4,148	4,166	4,038	4,063	4,025	4,109	4,053	4,152	4,301
20	3,757	3,810	3,714	3,992	4,012	3,918	4,063	3,947	3,998	3,833	3,871	4,126
21	3,501	3,507	3,470	3,790	3,750	3,612	3,828	3,714	3,687	3,552	3,591	3,858
22	3,208	3,283	3,225	3,433	3,469	3,405	3,557	3,482	3,421	3,412	3,390	3,550
23	2,806	2,880	2,747	2,974	3,026	3,012	3,077	3,082	3,099	3,102	2,979	3,231
24	2,651	2,678	2,613	2,806	2,815	2,892	2,941	2,905	2,921	2,872	2,878	2,953
MIN	2,377	2,387	2,435	2,516	2,534	2,510	2,615	2,628	2,743	2,592	2,588	2,665
MAX	4,022	4,090	3,970	4,148	4,166	4,038	4,082	4,025	4,109	4,053	4,343	4,403
MEAN	3,286	3,252	3,233	3,354	3,430	3,372	3,487	3,472	3,534	3,429	3,480	3,593
Avg/Day	78,856	78,046	77,602	80,507	82,310	80,939	83,685	83,336	84,819	82,307	83,523	86,238

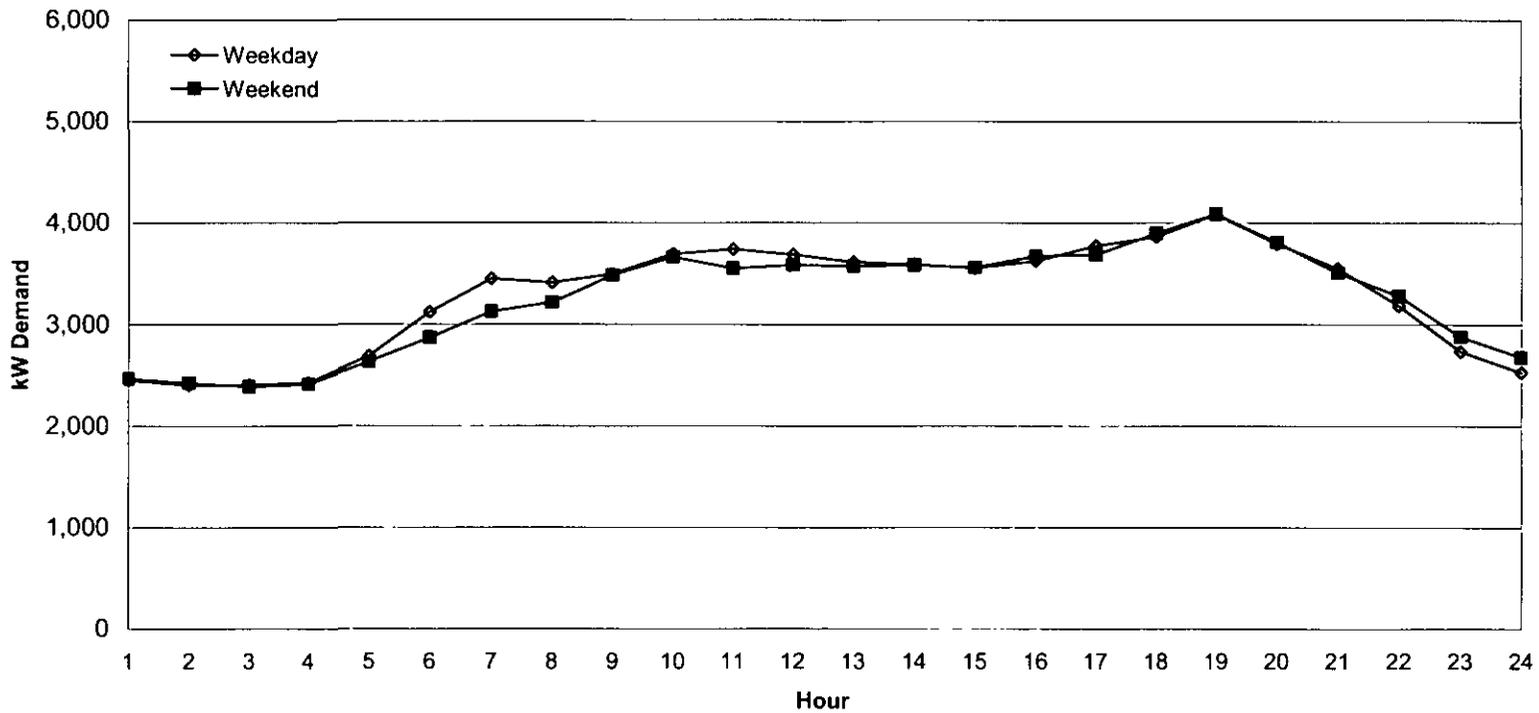
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Exhibit 4.9 a
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 January 2005



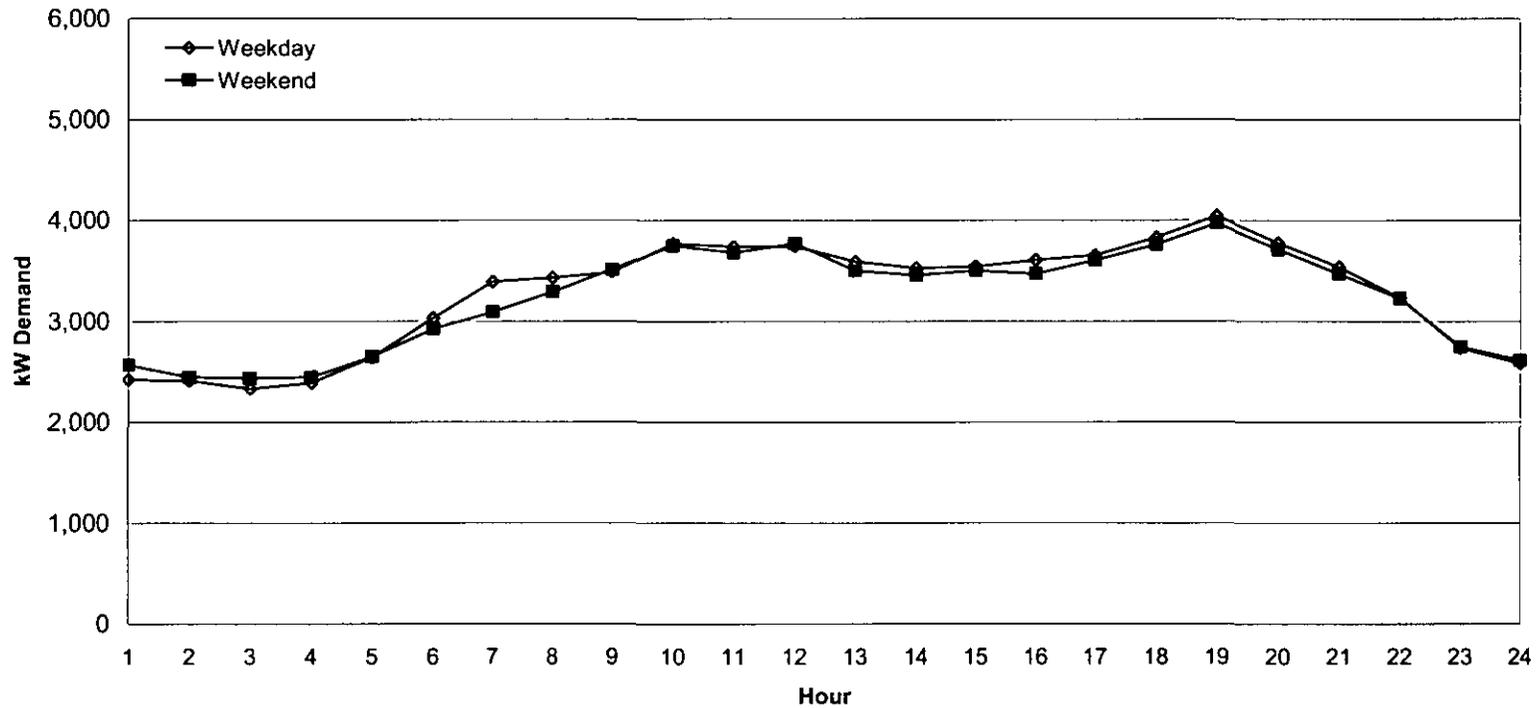
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Exhibit 4.9 b
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 February 2005



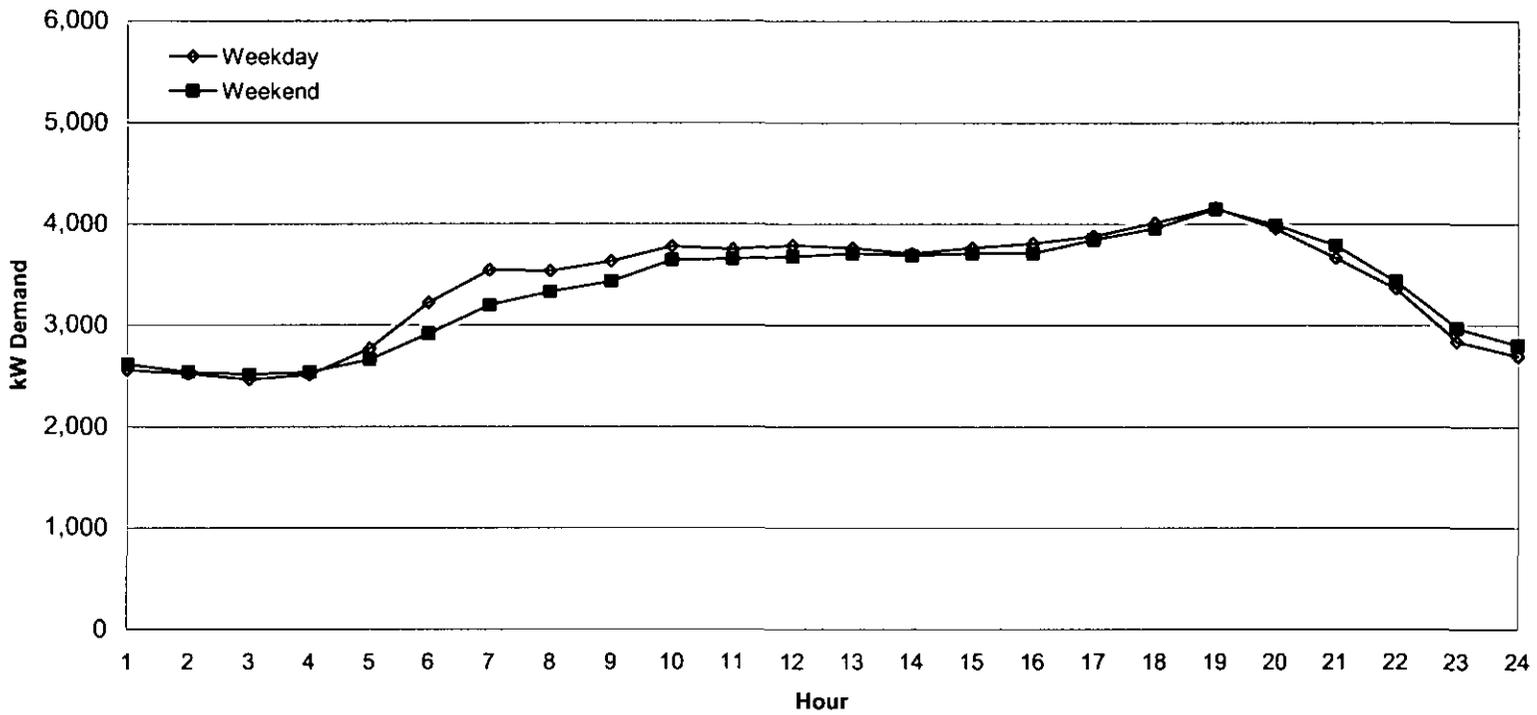
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Exhibit 4.9 c
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 March 2005



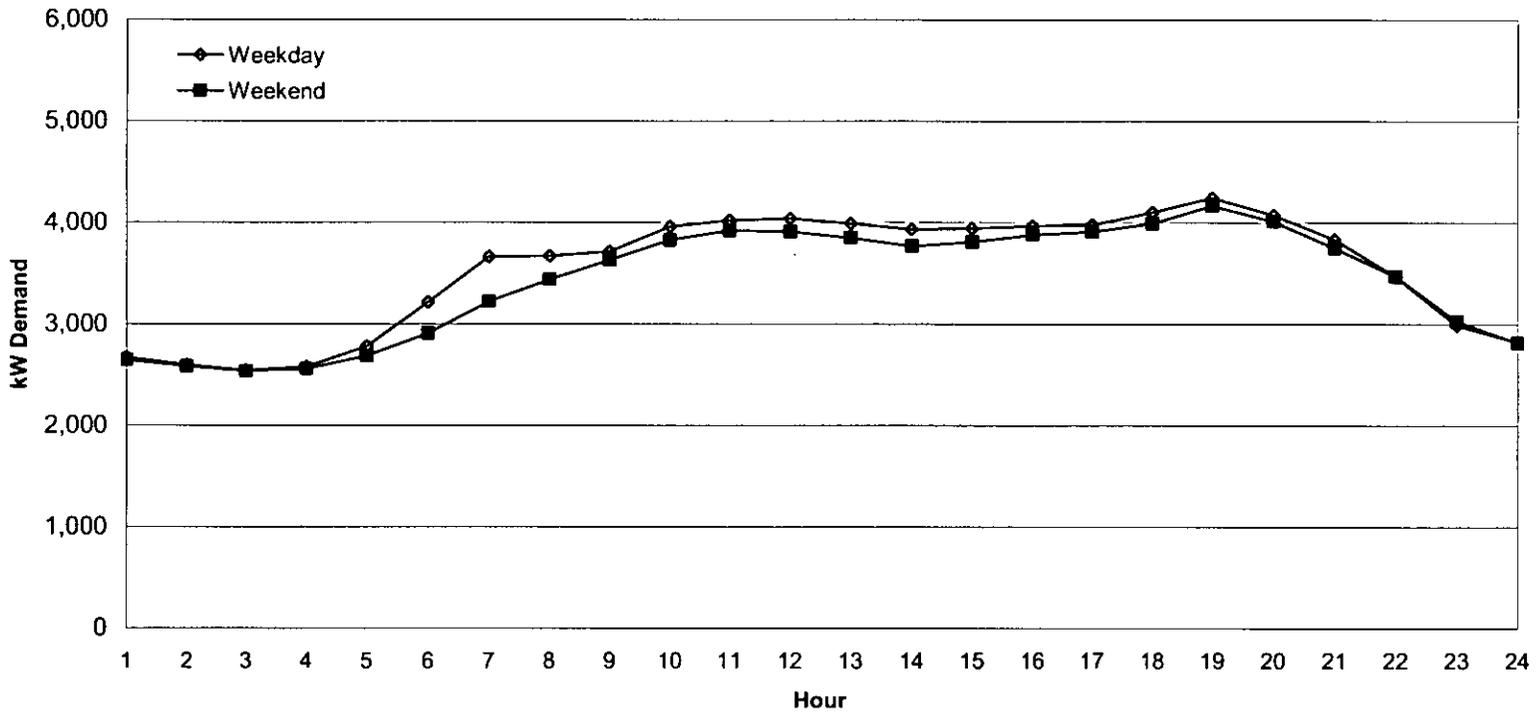
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Exhibit 4.9 d
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 April 2005



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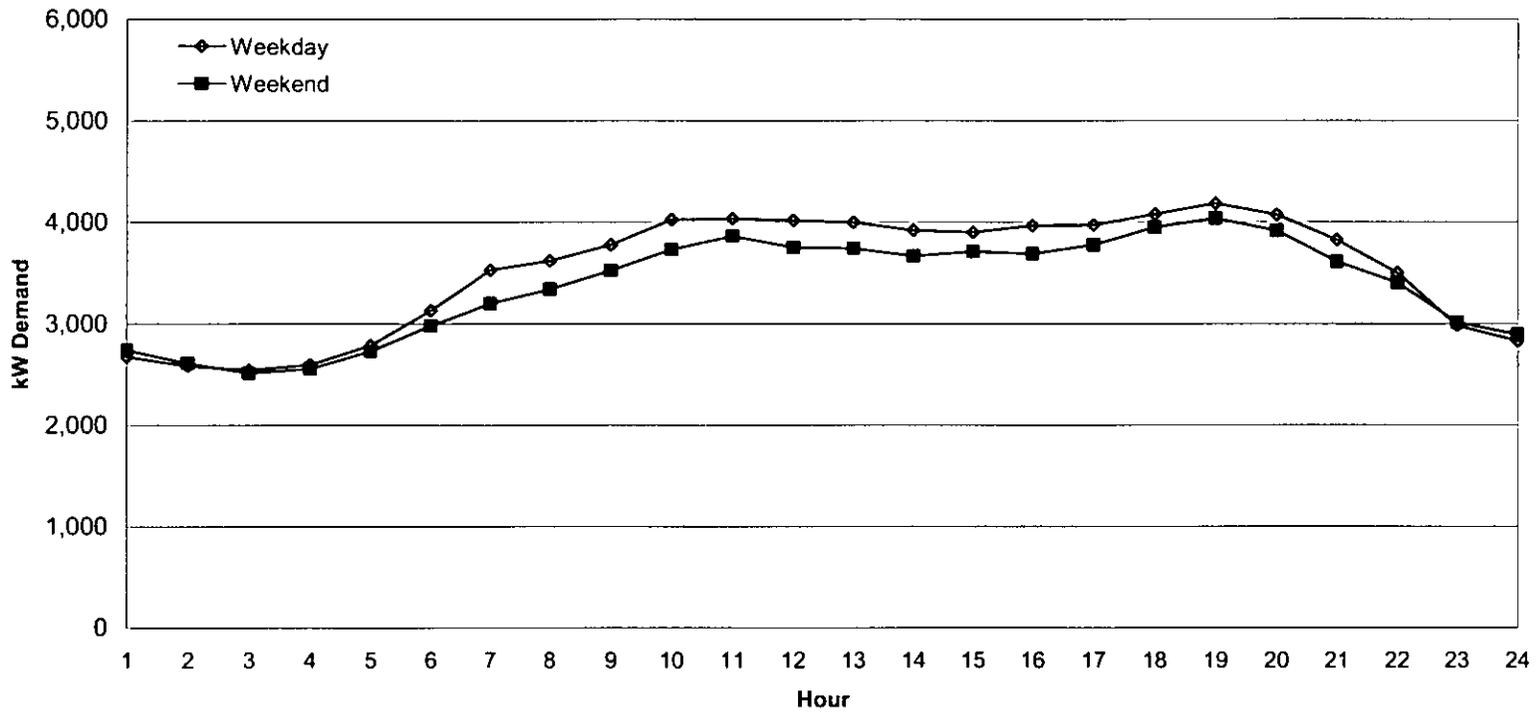
Exhibit 4.9 e
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 May 2005



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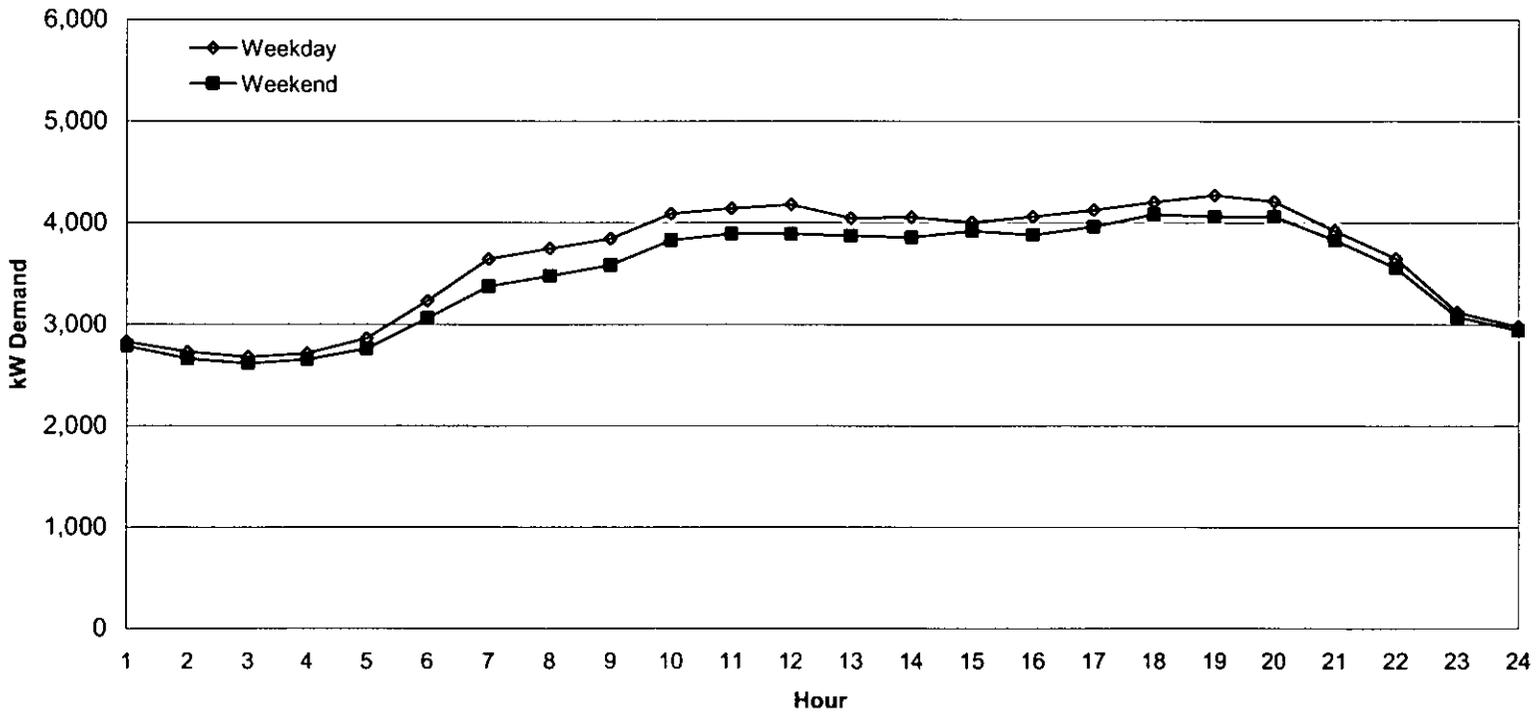
Exhibit 4.9 f

AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
June 2005



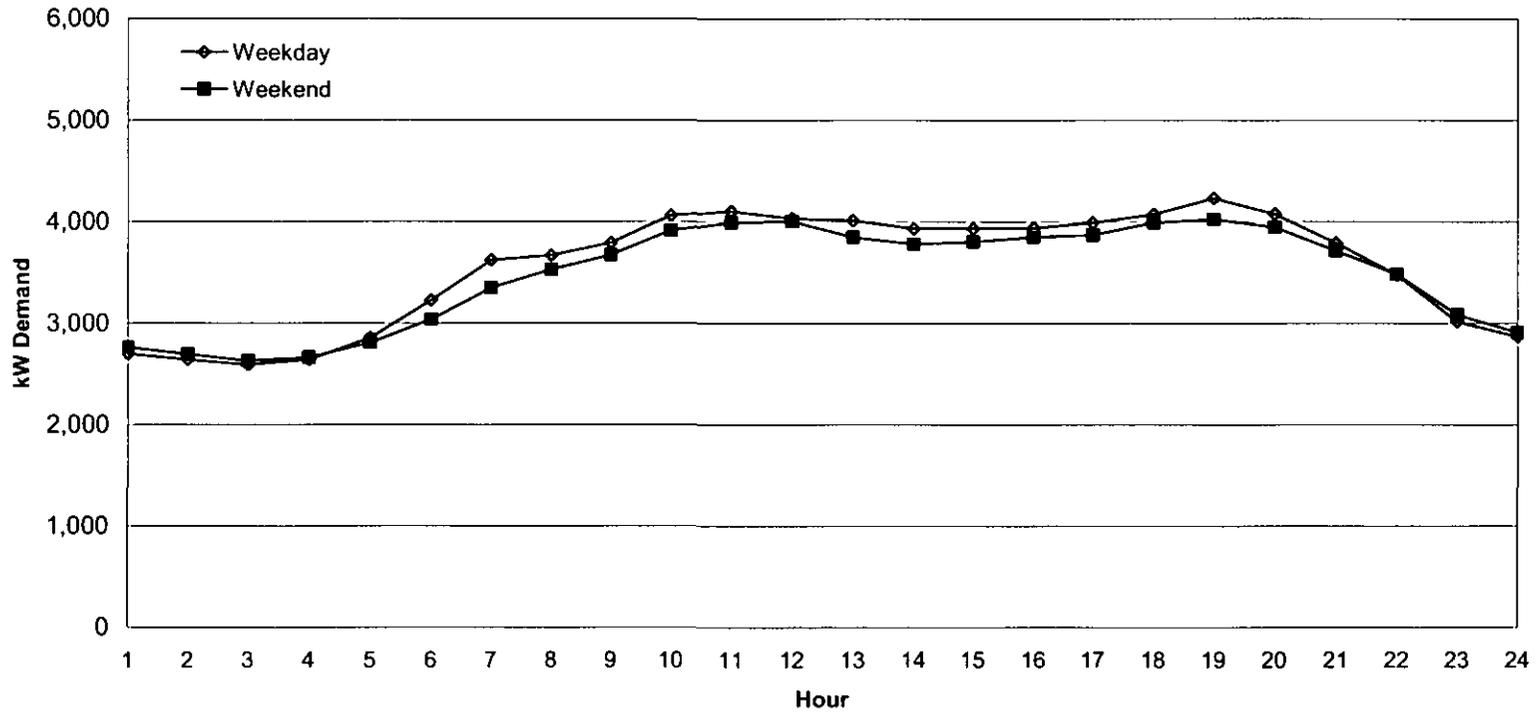
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Exhibit 4.9 g
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 July 2005



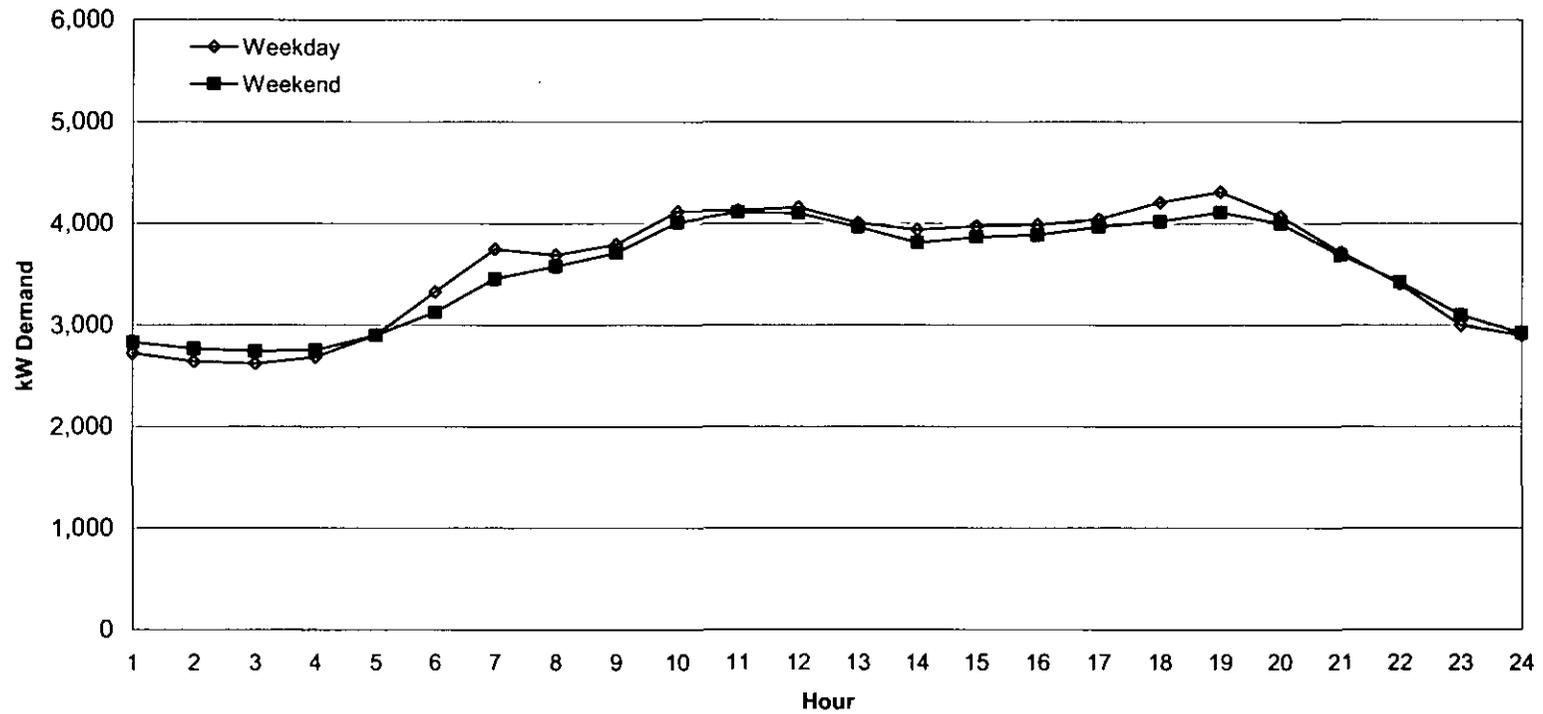
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Exhibit 4.9 h
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 August 2005



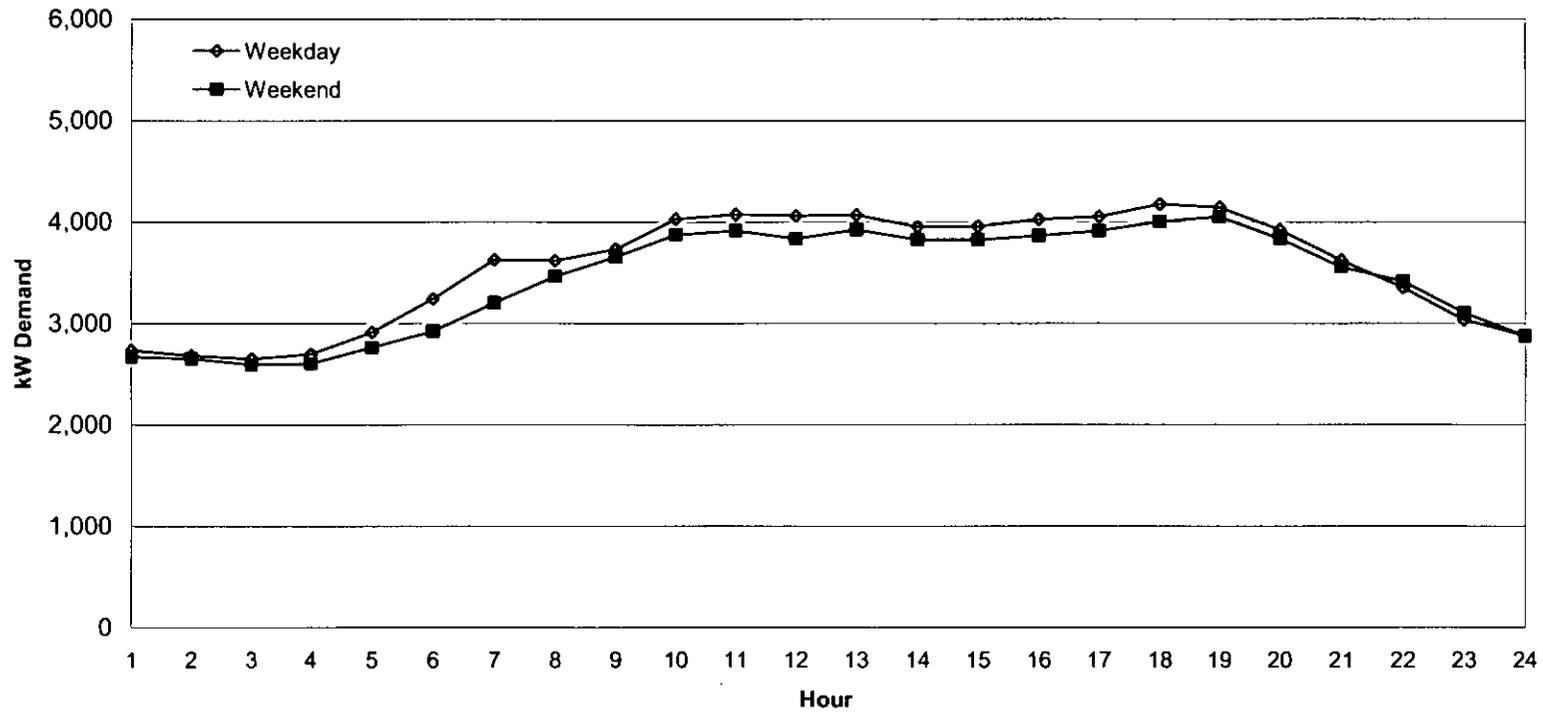
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Exhibit 4.9 i
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 September 2005



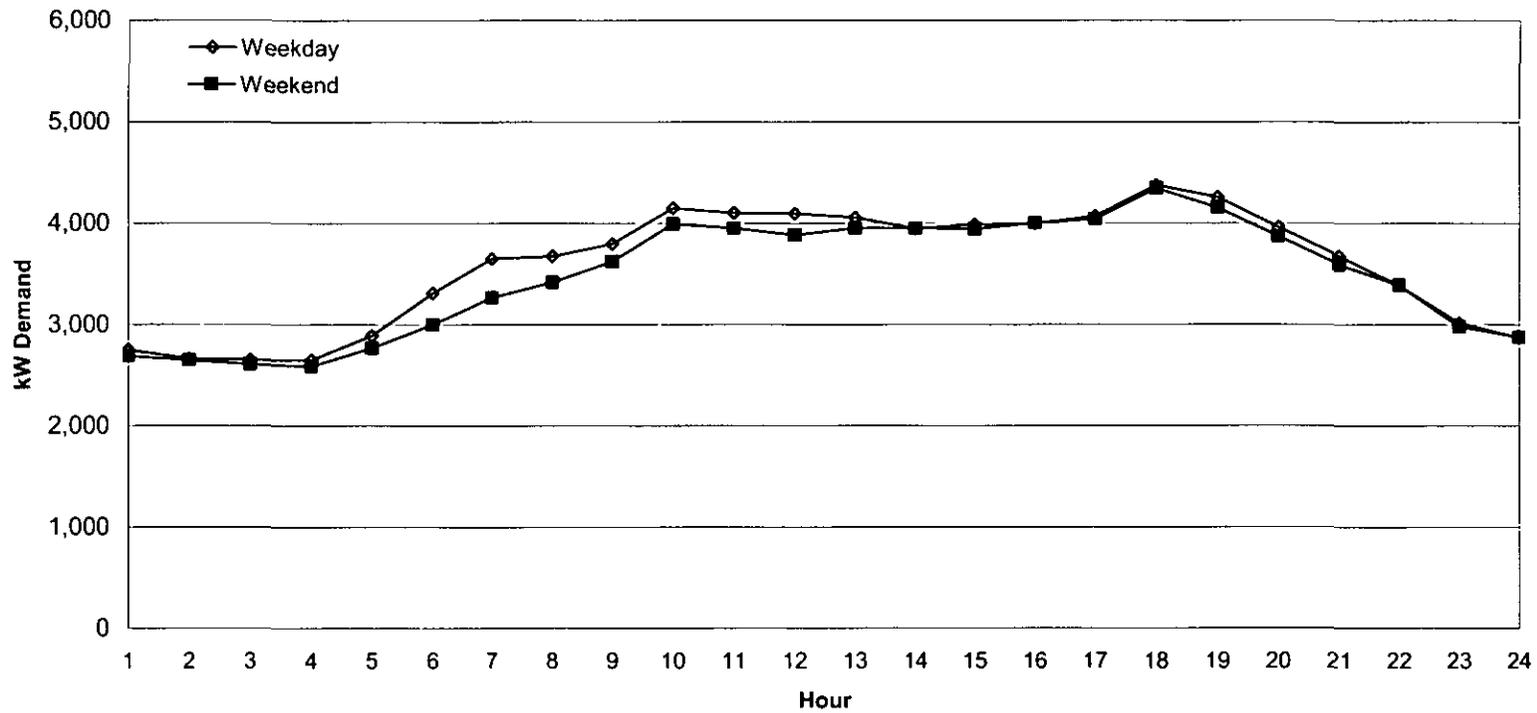
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Exhibit 4.9 j
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 October 2005



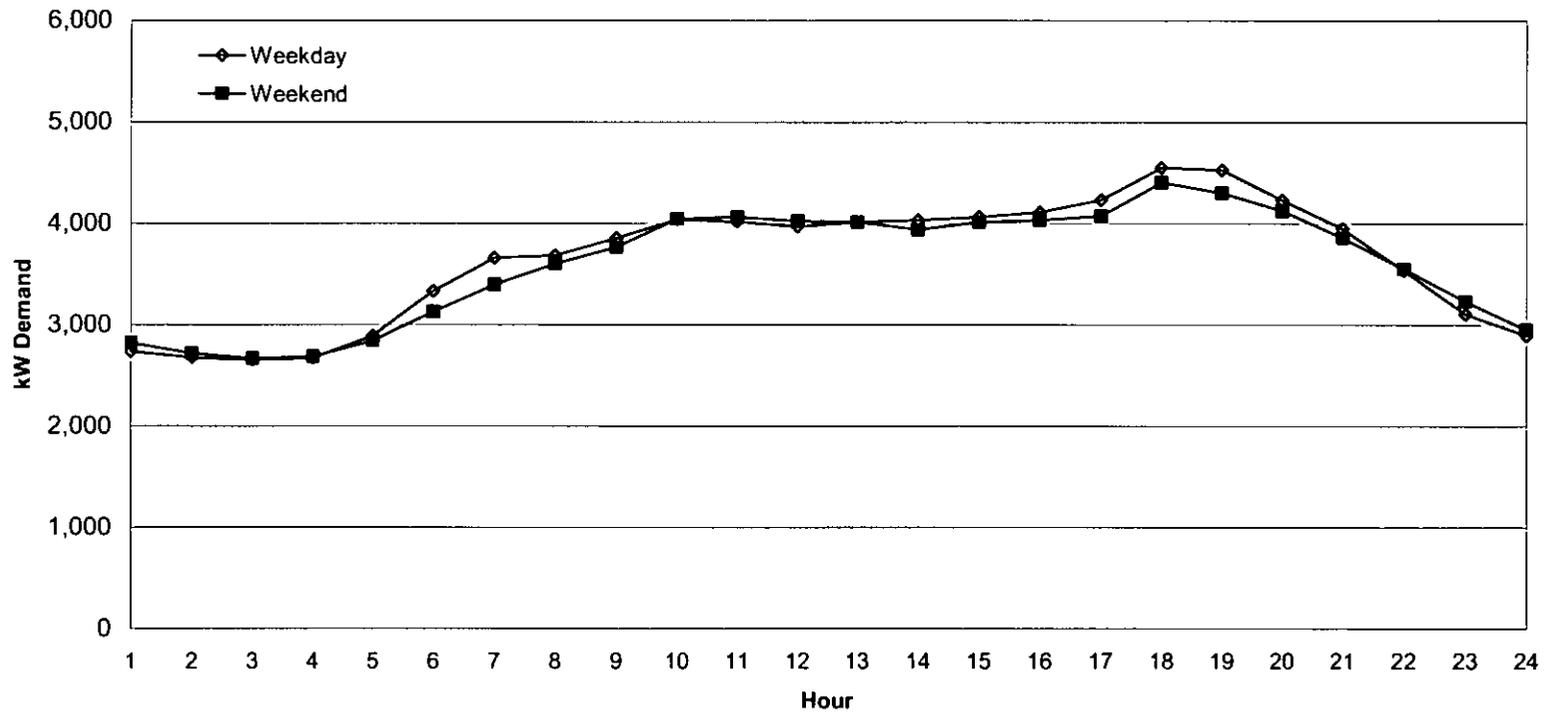
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Exhibit 4.9 k
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 November 2005



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Exhibit 4.9 I
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, NORMALIZED AT THE GROSS LEVEL
 December 2005



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Table 4.14
SUMMARY OF THE 2005 LOAD FACTORS BY RATE CLASS

Rate Class	Load Factor	Total kWh ¹	Class Peak kW ²
F: Street Light Service	36%	122,335	39
G: General Service Non-demand	61%	2,037,442	382
H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service	73%	587,715	92
J: General Service Demand	56%	6,501,991	1,329
P: Large Power Service	72%	12,583,551	1,988
R: Residential Service	46%	8,504,357	2,132
Total System: January - December 2005	67%	30,337,390 ³	5,150 ⁴

Load factor (%) = 100 × (Total kWh) / (Peak Demand × 8,760 [the number of hours in the year])

¹ The sample estimates of total kWh are at the gross hourly generation level.

² The sample estimates of integrated 60-minute kW demand are also at the gross generation level.

³ Recorded generation is at the gross generation level for January – December 2005.

⁴ Recorded instantaneous demand is at the gross generation level.

Table 4.15
TOTAL SYSTEM 2005 KWH BY TIME-OF-USE AT THE SALES LEVEL¹

Rate	Priority Peak		On-Peak		Off-Peak		Total kWh	% of Total System
	kWh	%	kWh	%	kWh	%		
F	14,268	0.4%	6,653	0.0%	92,643	1.0%	113,564	0.4%
G	239,086	6.4%	971,952	6.7%	662,614	6.9%	1,873,651	6.7%
H	64,455	1.7%	277,374	1.9%	198,205	2.1%	540,034	1.9%
J	668,584	17.9%	3,575,002	24.5%	1,729,497	17.9%	5,973,083	21.4%
P	1,461,726	39.2%	5,744,611	39.4%	4,370,529	45.3%	11,576,866	41.4%
R	1,285,527	34.4%	3,988,627	27.4%	2,590,663	26.9%	7,864,817	28.1%
Total	3,733,646	100.0%	14,564,218	100.0%	9,644,151	100.0%	27,942,015	100.0%

Time-of-Use Period Definition:	
Priority Peak:	5 pm - 9 pm Monday through Friday
On-peak:	7 am - 5 pm Monday through Friday
	7 am - 9 pm Saturday and Sunday
Off-peak:	9 pm - 7 am Daily

¹ Normalized sample estimates.

Table 4.16

TOTAL SYSTEM 2005 MONTHLY KWH BY TIME-OF-USE AT THE SALES LEVEL

kWh Load by Time-of-Use					Percent kWh Load by Time-of-Use			
Month	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	294,879	1,188,104	776,141	2,259,125	13%	53%	34%	100%
February	284,297	1,062,497	699,684	2,046,478	14%	52%	34%	100%
March	321,994	1,134,539	757,013	2,213,546	15%	51%	34%	100%
April	315,907	1,161,374	782,485	2,259,766	14%	51%	35%	100%
May	320,202	1,250,886	833,798	2,404,886	13%	52%	35%	100%
June	327,526	1,213,969	836,445	2,377,940	14%	51%	35%	100%
July	306,363	1,253,788	862,683	2,422,834	13%	52%	36%	100%
August	317,688	1,242,919	813,410	2,374,017	13%	52%	34%	100%
September	316,138	1,292,417	839,856	2,448,411	13%	53%	34%	100%
October	313,123	1,265,880	837,327	2,416,330	13%	52%	35%	100%
November	289,242	1,200,562	765,692	2,255,496	13%	53%	34%	100%
December	326,288	1,297,282	839,616	2,463,186	13%	53%	34%	100%
Total	3,733,646	14,564,218	9,644,151	27,942,015				
Percent	13%	52%	35%	100%				

Note: Normalized sales from sample estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday 7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

5. SCHEDULE R: RESIDENTIAL SERVICE

The residential class is the largest in the system. During 2005 it contained an average of 1,342 customers, or 86% of all customers. Schedule R accounted for 7,864 MWh of sales in 2005, or 28% of the total.

The residential load data revealed these patterns and characteristics:

1. During 2005 Schedule R's average monthly consumption ranged from a low of 443 kWh in February to a high of 543 kWh in January. The weighted average monthly consumption for the 30 customers in the sample was 495 kWh, which was 1.2% above the average for the population, 488 kWh.
2. Table 5.1 summarizes the monthly residential load statistics per customer normalized to the sales level. Table 5.1 also shows the non-coincident and coincident demands of the residential sample.

The non-coincident demand is a customer's highest demand during a calendar month. The class non-coincident demand is the total non-coincident demand of all the customers in the class.

The coincident demand of a customer is the demand which a customer puts on the system at a specified time, either the system peak, daytime peak or class peak. The class coincident demand is the total demand of all customers in the class at the specified time.

The diversity factor represents the extent to which the peak demand of each individual customer in the class occurs simultaneously. It is the ratio of the maximum non-coincident demand per customer to the coincident demand per customer at the class peak, expressed as a percent.

The residential sample's average diversity factor was 285%. The average non-coincident demand per customer was 5.1 kW; the average coincident demand per customer at the class peak was 1.8 kW. The highest coincident demand occurred in January; the highest non-coincident demand occurred in April. Except for January, the maximum coincident demand was fairly constant throughout the year.

3. The sample's monthly load factor ranged from 37% to 56% during 2005, with an average monthly load factor of 44%.

4. Schedule R's monthly peaks occurred between 7 PM and 9 PM, except in September, when it occurred between 10AM and 11 AM, and in December, when it occurred between 6 PM and 7 PM. The residential hourly loads on the day of the class peak in each month are reported in Tables 5.2 (total class) and 5.3 (average per customer).
5. Table 5.4 summarizes the class contribution to the system and daytime peaks normalized to the gross generation. To extrapolate the demand from the sales level to the gross generation, the sample-based estimates for each class of sales at the peak hour were added, and the sum was normalized to the actual system or daytime peak for each month.

Schedule R's average contribution to the monthly system peaks, 34%, was higher than its average contribution to the daytime peak, 24%.

Its contribution to the monthly system peaks ranged in amount from 1.4 MW in April, September and November to 2.1 MW in May, and in percentage from 29% in September, November and December to 45% in May.

The contribution to the daytime peak ranged in amount from 0.9 MW in April and August to 1.5 MW in October and November, and in percentage from 20% in April to 32% in November.

6. As shown in Table 5.5, 67% of the total residential kWh consumption occurred during the system on-peak period (7 AM to 9 PM daily), with 16% occurring during the system priority peak period (5 PM to 9 PM, Monday through Friday).
7. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 5.6 through 5.9. The gross weekend and weekday loads are graphed in Exhibits 5.1a through 5.11.

Schedule R's load profiles show a morning peak between 6 AM and 7 AM on weekdays and between 9 AM and 10 AM on weekends. Loads varied little until 4 PM, when they began rising to a peak between 6 PM and 7 PM on weekdays and between 7 PM and 8 PM on weekends, except in November and December, when weekend peaks were also between 6 PM and 7 PM. From 8 AM until 7 PM Schedule R's weekend loads averaged 6% higher than its weekday loads.

Table 5.1
SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
Schedule R: Residential Service

Average per customer															
Month	Sample Size	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	30	543	67%	33%	01/17-20:00	1.7	1.2	0.7	4.2	246%	43%	18%	41%	29%	17%
February	30	443	67%	33%	02/07-20:00	1.8	0.9	0.6	3.8	210%	37%	17%	48%	24%	16%
March	30	483	67%	33%	03/16-20:00	1.5	1.0	0.6	3.4	224%	42%	19%	45%	29%	16%
April	30	488	66%	34%	04/17-21:00	1.6	0.8	0.5	3.8	232%	42%	18%	43%	22%	13%
May	30	504	66%	34%	05/02-20:00	1.6	1.5	0.6	3.6	229%	43%	19%	44%	41%	17%
June	30	473	65%	35%	06/02-20:00	1.5	1.0	0.6	3.8	246%	43%	17%	41%	26%	16%
July	30	516	64%	36%	07/11-21:00	1.6	0.6	0.6	4.0	252%	44%	18%	40%	14%	14%
August	30	470	69%	31%	08/03-20:00	1.4	0.9	0.6	3.7	268%	46%	17%	37%	26%	15%
September	30	485	68%	32%	09/04-11:00	1.2	0.8	0.7	3.6	300%	56%	19%	33%	22%	20%
October	30	484	68%	32%	10/27-20:00	1.5	1.0	1.0	4.1	264%	42%	16%	38%	23%	24%
November	30	463	70%	30%	11/29-20:00	1.3	0.8	0.9	4.1	303%	48%	16%	33%	19%	21%
December	30	510	69%	31%	12/06-19:00	1.7	0.8	0.7	4.1	245%	41%	17%	41%	21%	18%
Average	30	488	67%	33%		1.5	0.9	0.7	3.8	252%	44%	18%	40%	25%	17%

Notes:

- 1) kW Demand is 60-minute integrated demand.
- 2) On Peak is from 7 am to 9 pm daily.
- 3) Maximum non-coincident kW demand = individual maximum demands.
- 4) Diversity factor = ratio of the weighted sum of the maximum demand of each member of the class to the maximum coincident demand of the entire class.
- 5) Load factor = ratio (as a %) of kWh / (peak demand x number of hours).
- 6) Coincidence factor = ratio (as a %) of the maximum demand of the class to the weighted sum of the maximum demand of each member of the class.

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Table 5.2
 HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule R: Residential Service
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	864	929	554	728	893	860	1,029	527	666	479	607	692
2	538	652	432	580	662	953	1,334	447	656	457	505	559
3	493	477	501	542	431	508	491	407	715	570	528	521
4	519	508	373	583	482	505	511	449	554	441	556	550
5	488	474	410	562	470	546	476	406	536	602	472	616
6	667	609	634	509	506	581	608	594	571	668	692	773
7	758	833	814	761	803	852	941	956	697	1,007	942	1,072
8	904	1,109	957	815	973	866	1,157	1,023	749	1,143	945	806
9	922	1,030	866	1,601	817	847	849	895	1,281	798	1,064	994
10	962	1,019	857	954	748	859	740	857	1,570	779	1,019	1,140
11	874	1,117	664	1,031	840	842	703	875	1,617	721	1,048	914
12	950	949	663	1,119	801	753	859	884	1,233	757	815	1,098
13	841	881	612	1,572	940	916	759	1,159	1,108	873	982	1,249
14	795	764	645	919	786	893	704	1,148	1,134	758	1,016	1,227
15	792	1,086	725	1,017	905	782	777	1,144	1,103	768	1,165	1,002
16	1,354	978	833	882	790	900	1,057	1,482	1,240	781	1,170	1,337
17	1,221	1,191	872	1,009	1,021	1,312	1,316	1,104	1,276	765	1,158	1,236
18	922	1,132	1,482	1,373	1,299	895	1,057	1,402	1,467	796	1,143	1,531
19	1,620	1,580	1,168	1,323	1,351	1,495	1,217	1,493	1,157	1,241	1,727	2,234
20	2,247	2,406	2,043	1,417	2,111	2,066	1,221	1,840	1,074	2,095	1,821	1,652
21	1,591	1,349	1,689	2,163	1,511	1,376	2,096	1,240	935	1,153	1,121	1,401
22	1,637	1,277	1,320	1,096	939	1,017	1,253	1,313	967	1,507	998	1,100
23	1,021	1,349	676	1,160	866	882	1,029	887	985	775	697	849
24	937	725	533	1,363	641	831	1,073	543	642	636	555	590
Average	997	1,018	847	1,045	899	931	969	962	997	857	948	1,048

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Table 5.3

HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS

Schedule R: Residential Service
60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	0.65	0.69	0.42	0.55	0.67	0.64	0.77	0.39	0.49	0.35	0.45	0.51
2	0.40	0.49	0.32	0.44	0.50	0.71	1.00	0.33	0.49	0.34	0.37	0.41
3	0.37	0.36	0.38	0.41	0.32	0.38	0.37	0.30	0.53	0.42	0.39	0.39
4	0.39	0.38	0.28	0.44	0.36	0.38	0.38	0.34	0.41	0.33	0.41	0.41
5	0.37	0.35	0.31	0.42	0.35	0.41	0.36	0.30	0.40	0.44	0.35	0.46
6	0.50	0.45	0.48	0.38	0.38	0.43	0.46	0.44	0.42	0.49	0.51	0.57
7	0.57	0.62	0.61	0.57	0.60	0.64	0.71	0.71	0.52	0.74	0.69	0.79
8	0.68	0.83	0.72	0.61	0.73	0.65	0.87	0.76	0.56	0.84	0.70	0.60
9	0.69	0.77	0.65	1.20	0.61	0.63	0.64	0.67	0.95	0.59	0.78	0.74
10	0.72	0.76	0.64	0.72	0.56	0.64	0.56	0.64	1.16	0.58	0.75	0.84
11	0.66	0.83	0.50	0.77	0.63	0.63	0.53	0.65	1.20	0.53	0.77	0.68
12	0.71	0.71	0.50	0.84	0.60	0.56	0.64	0.66	0.91	0.56	0.60	0.81
13	0.63	0.66	0.46	1.18	0.70	0.68	0.57	0.86	0.82	0.64	0.72	0.93
14	0.60	0.57	0.48	0.69	0.59	0.67	0.53	0.86	0.84	0.56	0.75	0.91
15	0.59	0.81	0.54	0.76	0.68	0.58	0.58	0.85	0.82	0.57	0.86	0.74
16	1.02	0.73	0.63	0.66	0.59	0.67	0.79	1.11	0.92	0.58	0.86	0.99
17	0.92	0.89	0.65	0.76	0.76	0.98	0.99	0.82	0.95	0.56	0.85	0.92
18	0.69	0.84	1.11	1.03	0.97	0.67	0.79	1.05	1.09	0.59	0.84	1.13
19	1.22	1.18	0.88	0.99	1.01	1.11	0.91	1.11	0.86	0.92	1.27	1.65
20	1.69	1.79	1.53	1.06	1.58	1.54	0.92	1.37	0.80	1.55	1.34	1.22
21	1.20	1.00	1.27	1.62	1.13	1.03	1.57	0.92	0.69	0.85	0.83	1.04
22	1.23	0.95	0.99	0.82	0.70	0.76	0.94	0.98	0.72	1.11	0.74	0.82
23	0.77	1.00	0.51	0.87	0.65	0.66	0.77	0.66	0.73	0.57	0.51	0.63
24	0.70	0.54	0.40	1.02	0.48	0.62	0.81	0.40	0.48	0.47	0.41	0.44
Average	0.75	0.76	0.64	0.79	0.67	0.69	0.73	0.72	0.74	0.63	0.70	0.78

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Table 5.4
CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS
 Schedule R: Residential Service
 60-Minute Integrated kW Demand at the Gross Level, Normalized

<u>Month</u>	SYSTEM PEAK		DAYTIME PEAK	
	<u>CLASS kW</u>	<u>% OF SYSTEM</u>	<u>CLASS kW</u>	<u>% OF SYSTEM</u>
January	1,961	41%	1,266	29%
February	1,538	33%	980	23%
March	1,695	36%	968	21%
April	1,437	31%	897	20%
May	2,119	45%	993	22%
June	1,557	33%	952	21%
July	1,757	37%	992	21%
August	1,578	34%	918	20%
September	1,413	29%	1,102	24%
October	1,595	34%	1,457	31%
November	1,414	29%	1,520	32%
December	1,491	29%	1,171	25%
Average	1,629	34%	1,101	24%

Note: The annual instantaneous system peak of 5.2 MW occurred on December 27, 2005 @ 18:35

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Table 5.5
CLASS kWh LOAD BY TIME-OF-USE AT THE SALES LEVEL
Schedule R: Residential Service

Month	kWh Load by Time-of-Use			Total	Percent kWh Load by Time-of-Use			Total
	Priority Peak	On-peak	Off-peak		Priority Peak	On-peak	Off-peak	
January	115,983	369,332	237,469	722,784	16%	51%	33%	100%
February	103,593	292,329	199,161	595,083	17%	49%	33%	100%
March	120,583	309,011	213,478	643,072	19%	48%	33%	100%
April	112,211	316,145	220,635	648,991	17%	49%	34%	100%
May	109,792	337,104	227,133	674,029	16%	50%	34%	100%
June	107,646	303,415	223,721	634,782	17%	48%	35%	100%
July	105,922	332,820	249,093	687,835	15%	48%	36%	100%
August	102,756	330,268	197,364	630,388	16%	52%	31%	100%
September	95,899	350,986	208,157	655,042	15%	54%	32%	100%
October	104,895	338,149	212,694	655,738	16%	52%	32%	100%
November	97,219	341,516	190,183	628,918	15%	54%	30%	100%
December	109,029	367,551	211,575	688,155	16%	53%	31%	100%
Total	1,285,527	3,988,627	2,590,663	7,864,817				
Percent	16%	51%	33%	100%				

Note: Normalized sales from sample estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday
7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

Table 5.6
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule R: Residential Service
 60-Minute Integrated kW Demand

Hour	January	February	March	April	May	June	July	August	September	October	November	December
1	772	753	701	730	717	753	854	597	616	598	608	644
2	650	655	623	658	711	689	771	543	563	559	585	595
3	595	577	544	592	566	568	651	537	555	594	564	581
4	595	534	526	554	540	555	657	552	578	610	580	598
5	645	625	603	644	609	625	667	599	644	734	636	610
6	865	843	758	838	832	813	878	790	814	878	830	846
7	1,056	1,026	1,037	1,113	1,081	1,047	1,156	1,033	1,034	1,033	1,035	1,067
8	1,034	1,001	986	1,000	1,010	924	1,055	986	952	957	989	955
9	1,086	1,025	1,003	1,032	1,023	939	922	978	960	943	1,041	1,044
10	1,091	1,008	1,039	994	1,033	1,000	906	1,048	1,119	991	1,107	1,148
11	1,082	948	918	892	979	890	925	1,054	1,047	1,002	1,086	1,094
12	1,007	895	918	896	933	876	955	987	994	1,024	1,085	1,064
13	999	824	856	880	914	909	1,001	982	994	1,064	1,084	1,103
14	992	799	791	839	885	892	928	936	957	948	1,015	1,049
15	990	851	832	847	963	892	945	943	977	989	1,087	1,086
16	1,099	894	890	910	980	977	1,086	1,034	1,077	1,021	1,086	1,107
17	1,238	1,073	1,026	1,129	1,093	1,065	1,213	1,072	1,056	1,011	1,117	1,077
18	1,382	1,223	1,280	1,239	1,190	1,142	1,264	1,158	1,119	1,159	1,333	1,310
19	1,591	1,506	1,504	1,443	1,442	1,372	1,481	1,379	1,300	1,432	1,502	1,617
20	1,641	1,526	1,548	1,525	1,578	1,431	1,529	1,429	1,351	1,470	1,437	1,513
21	1,353	1,307	1,342	1,386	1,342	1,349	1,454	1,266	1,170	1,233	1,186	1,310
22	1,181	1,149	1,113	1,197	1,163	1,095	1,219	1,052	975	986	1,010	1,103
23	962	918	890	958	915	846	1,063	785	807	830	856	878
24	835	736	745	753	769	789	947	646	738	714	713	735
Average	1,031	946	936	960	970	935	1,022	933	933	949	982	1,006

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Table 5.7
 AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
 Schedule R: Residential Service
 60-Minute Integrated kW Demand

Hour	January	February	March	April	May	June	July	August	September	October	November	December
1	775	756	696	719	719	792	848	556	605	560	527	595
2	610	624	577	620	711	707	740	490	555	511	512	539
3	550	516	492	542	528	541	586	484	539	547	486	524
4	533	459	452	487	479	499	572	478	543	544	496	534
5	531	492	469	517	498	527	542	477	561	623	506	504
6	667	640	553	617	621	647	668	591	656	706	650	700
7	879	836	833	910	846	883	954	825	872	848	840	942
8	911	917	876	898	887	828	910	861	903	882	855	850
9	1,013	977	936	976	963	877	800	888	938	890	935	968
10	975	923	916	902	946	912	751	932	1,067	897	936	1,079
11	970	865	809	812	885	803	784	958	986	906	943	1,025
12	901	820	808	811	834	795	818	909	933	939	940	1,003
13	896	747	772	788	816	837	906	905	969	969	948	1,036
14	925	738	728	771	797	847	811	874	951	877	915	973
15	918	821	767	764	900	854	843	871	958	923	995	1,023
16	1,033	849	824	835	908	935	994	978	1,086	945	990	1,039
17	1,218	1,015	982	1,082	1,026	1,029	1,128	1,000	1,032	911	1,000	956
18	1,235	1,169	1,213	1,152	1,069	1,052	1,127	1,045	1,028	1,027	1,127	1,110
19	1,485	1,394	1,329	1,290	1,270	1,249	1,315	1,174	1,145	1,332	1,338	1,463
20	1,729	1,586	1,592	1,495	1,574	1,423	1,409	1,275	1,271	1,439	1,329	1,413
21	1,350	1,303	1,347	1,407	1,314	1,402	1,445	1,177	1,122	1,197	1,067	1,205
22	1,222	1,199	1,101	1,212	1,162	1,121	1,197	996	927	966	922	1,050
23	1,063	1,005	941	1,052	975	924	1,161	775	815	842	807	850
24	853	757	742	749	780	841	968	610	719	689	635	693
Average	968	892	865	892	896	889	928	839	883	874	863	920

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Table 5.8
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule R: Residential Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	781	768	838	789	783	760	858	688	716	626	622	726
2	622	567	805	692	779	767	682	584	700	611	557	636
3	666	598	624	628	599	587	644	572	652	633	571	575
4	596	529	535	572	538	584	637	567	668	643	564	594
5	664	610	607	631	618	624	669	585	704	714	615	605
6	764	677	680	682	696	734	794	702	791	782	746	727
7	828	833	811	859	920	831	954	839	835	836	780	778
8	1,062	837	848	888	949	847	938	892	861	840	857	960
9	1,110	984	1,020	1,022	1,038	909	907	1,086	1,064	1,025	1,161	1,108
10	1,256	1,105	1,106	1,021	1,081	1,041	999	1,192	1,232	1,160	1,265	1,333
11	1,178	1,040	1,022	1,001	1,068	932	977	1,118	1,276	1,126	1,197	1,255
12	1,106	1,030	952	1,012	1,008	885	1,042	1,082	1,140	1,070	1,180	1,216
13	1,053	965	923	1,065	1,041	933	1,077	1,035	1,112	1,109	1,241	1,281
14	1,077	949	916	1,033	981	874	1,031	987	1,120	1,028	1,181	1,217
15	1,062	969	948	1,031	1,033	937	983	938	1,162	1,019	1,213	1,178
16	1,134	947	964	1,072	1,054	1,017	1,052	993	1,188	1,080	1,188	1,229
17	1,199	1,022	1,109	1,109	1,274	951	1,139	1,112	1,198	1,030	1,156	1,211
18	1,410	1,272	1,271	1,294	1,299	1,068	1,302	1,196	1,245	1,150	1,352	1,288
19	1,606	1,478	1,477	1,493	1,499	1,241	1,436	1,291	1,340	1,314	1,381	1,395
20	1,577	1,401	1,384	1,467	1,498	1,298	1,440	1,312	1,401	1,384	1,254	1,335
21	1,363	1,330	1,180	1,440	1,222	1,125	1,312	1,239	1,133	1,197	1,184	1,204
22	1,260	1,156	1,099	1,073	1,069	1,035	1,118	1,054	1,026	1,002	1,062	1,078
23	1,025	897	876	929	914	865	963	863	858	847	816	886
24	878	758	771	843	835	772	865	758	717	698	749	745
Average	1,053	947	949	985	992	901	992	945	1,006	955	996	1,023

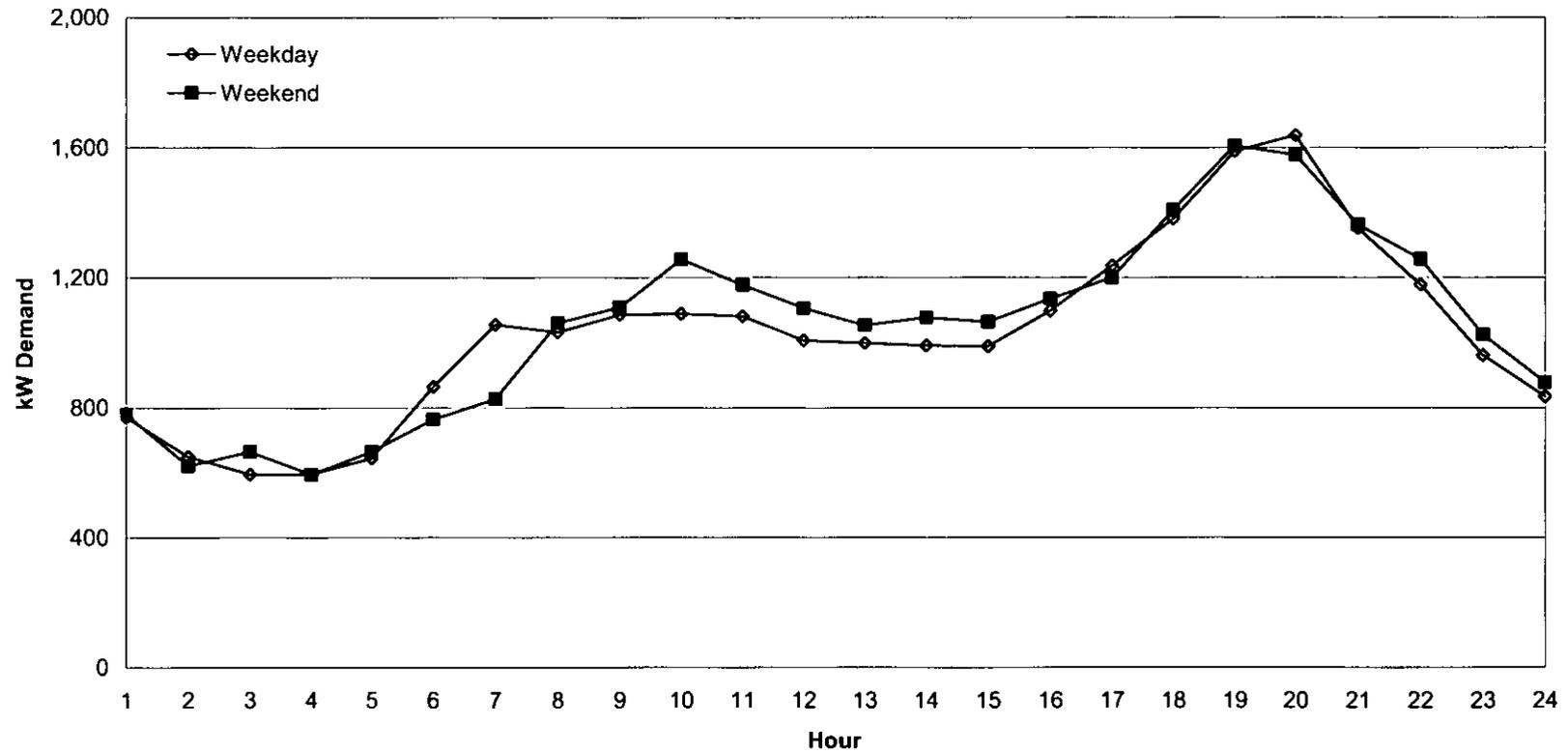
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Table 5.9
 AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule R: Residential Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	769	780	829	798	820	795	874	666	714	606	560	674
2	577	514	819	666	805	827	655	543	696	574	484	583
3	638	548	561	577	561	583	607	533	623	607	498	515
4	514	462	449	506	481	557	570	505	630	606	494	529
5	533	489	470	535	529	549	569	487	628	641	511	503
6	616	529	500	536	555	605	625	559	678	685	636	621
7	684	703	660	723	781	724	792	684	713	734	656	671
8	951	743	743	807	853	782	826	784	791	741	757	845
9	1,004	873	931	995	966	866	822	1,034	1,071	973	1,118	1,046
10	1,151	993	979	925	974	1,004	883	1,115	1,203	1,108	1,138	1,281
11	1,043	970	929	924	951	840	858	1,033	1,239	1,048	1,084	1,167
12	1,007	954	813	929	903	830	962	990	1,078	1,015	1,090	1,127
13	941	874	842	998	958	889	999	973	1,087	1,027	1,145	1,217
14	993	865	851	970	911	843	949	939	1,177	976	1,080	1,184
15	974	922	865	966	972	907	872	855	1,197	961	1,129	1,108
16	1,056	859	907	1,039	970	1,017	968	904	1,219	1,028	1,083	1,173
17	1,112	957	1,054	1,037	1,253	901	1,056	1,054	1,196	941	1,029	1,125
18	1,244	1,178	1,169	1,212	1,219	968	1,214	1,087	1,199	1,044	1,139	1,081
19	1,467	1,303	1,287	1,329	1,346	1,108	1,328	1,130	1,220	1,197	1,221	1,230
20	1,562	1,345	1,299	1,392	1,454	1,272	1,352	1,185	1,333	1,379	1,119	1,183
21	1,324	1,337	1,090	1,444	1,157	1,147	1,272	1,183	1,067	1,186	1,101	1,089
22	1,292	1,119	1,039	1,029	1,014	1,052	1,083	1,004	1,011	954	979	1,003
23	1,112	885	891	968	940	930	1,027	863	879	840	769	821
24	885	724	745	848	860	780	869	728	708	666	669	683
Average	977	872	863	923	926	866	918	868	973	897	895	936

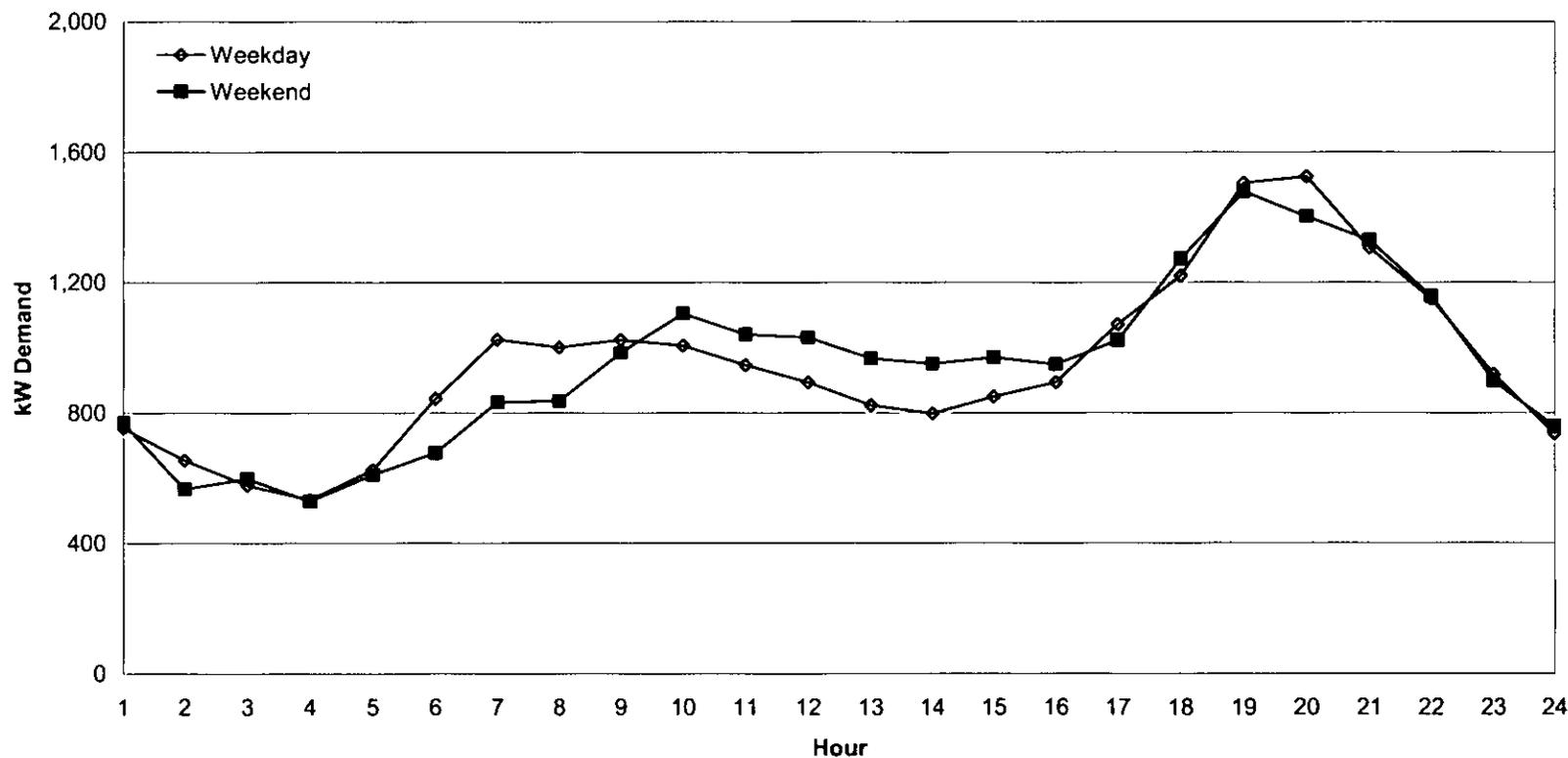
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Exhibit 5.1 a
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 January 2005



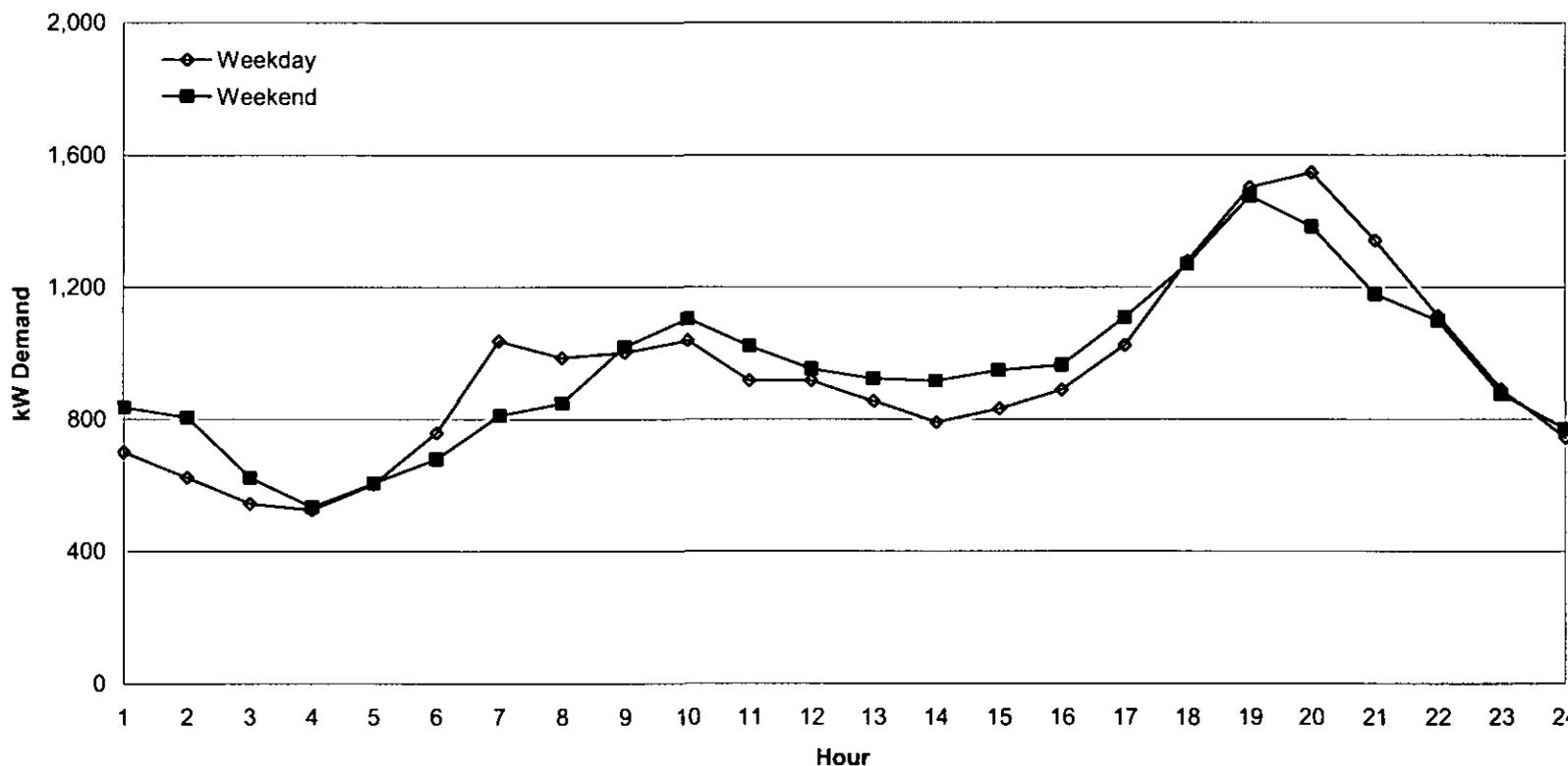
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Exhibit 5.1 b
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 February 2005



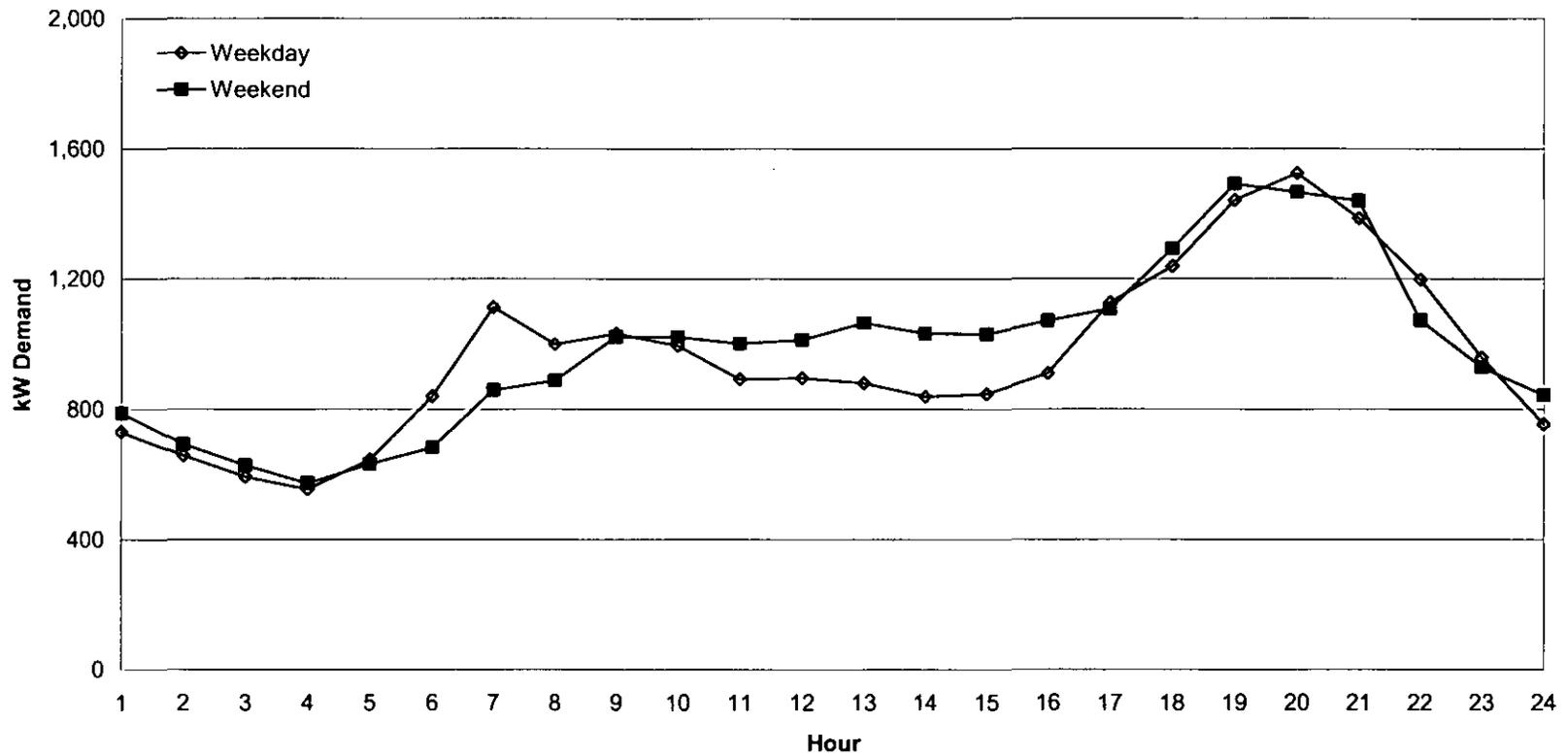
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Exhibit 5.1 c
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 March 2005



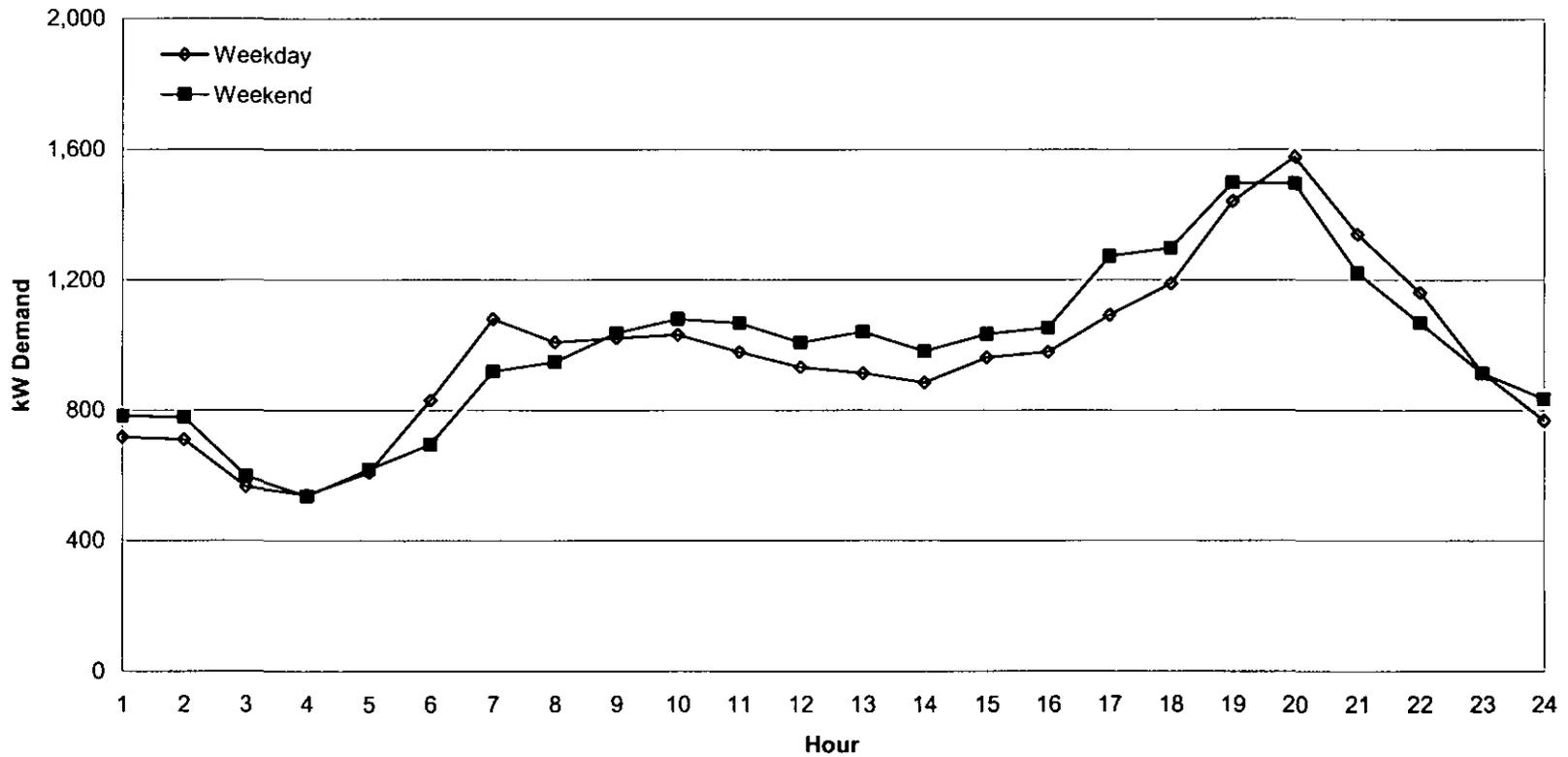
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Exhibit 5.1 d
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 April 2005



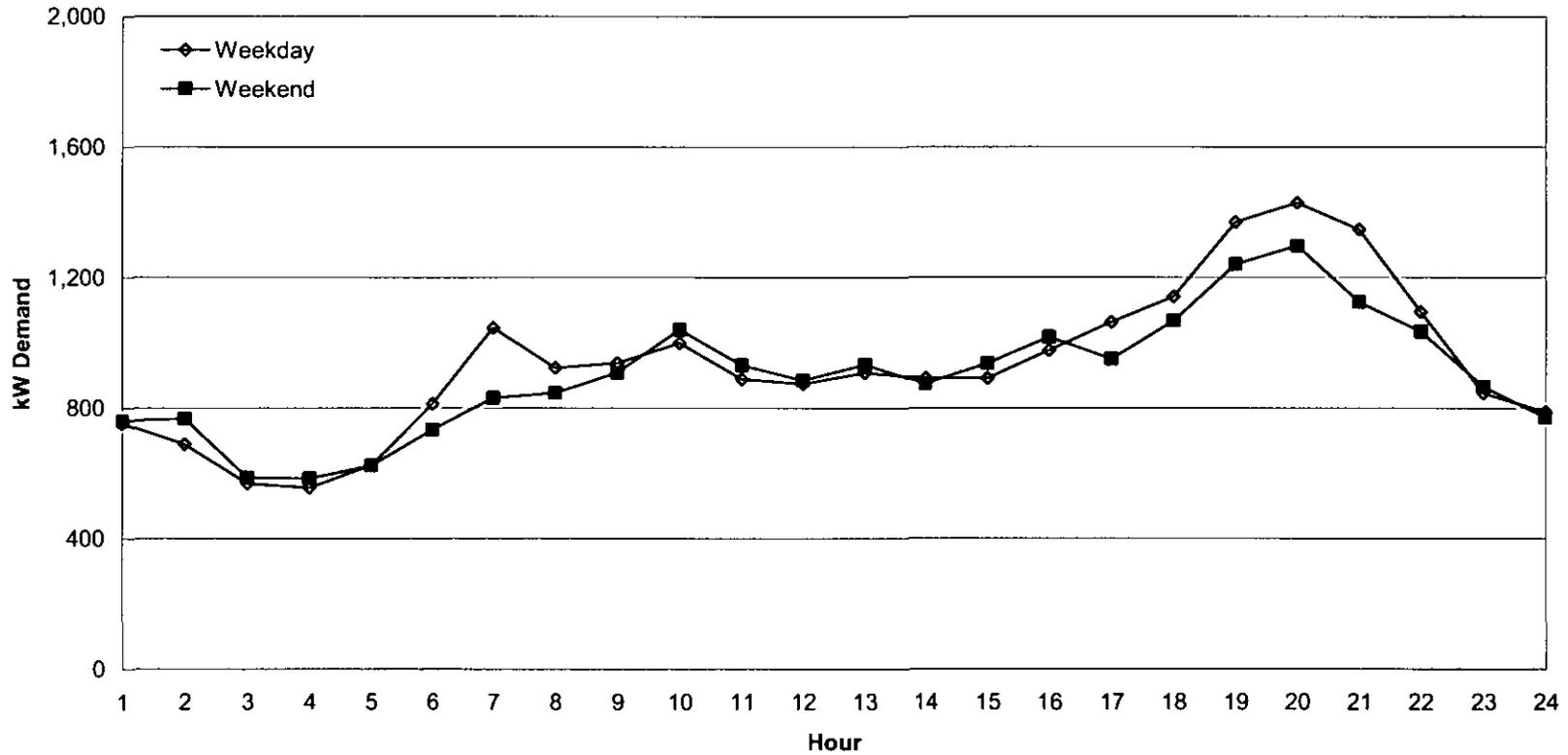
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Exhibit 5.1 e
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 May 2005



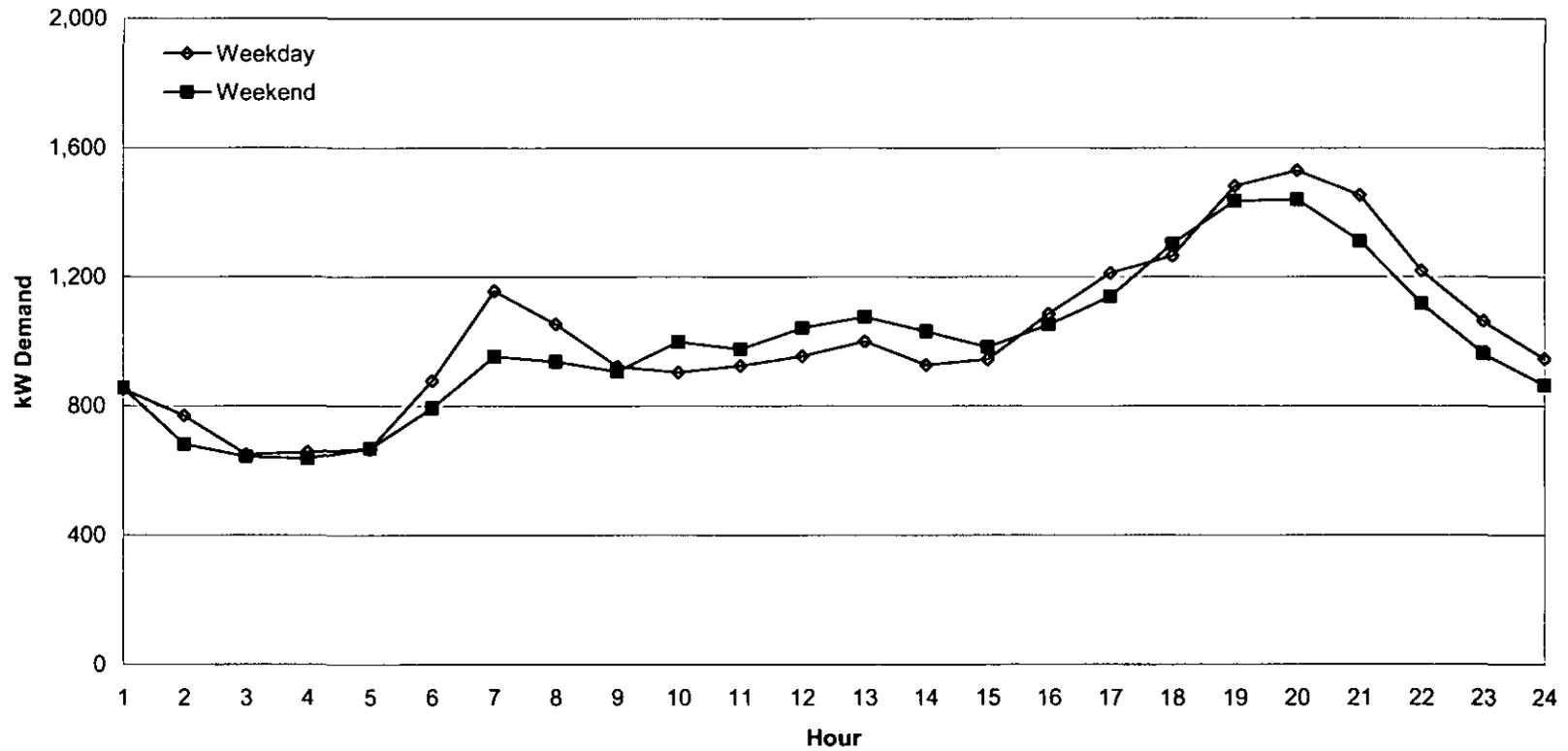
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Exhibit 5.1 f
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 June 2005



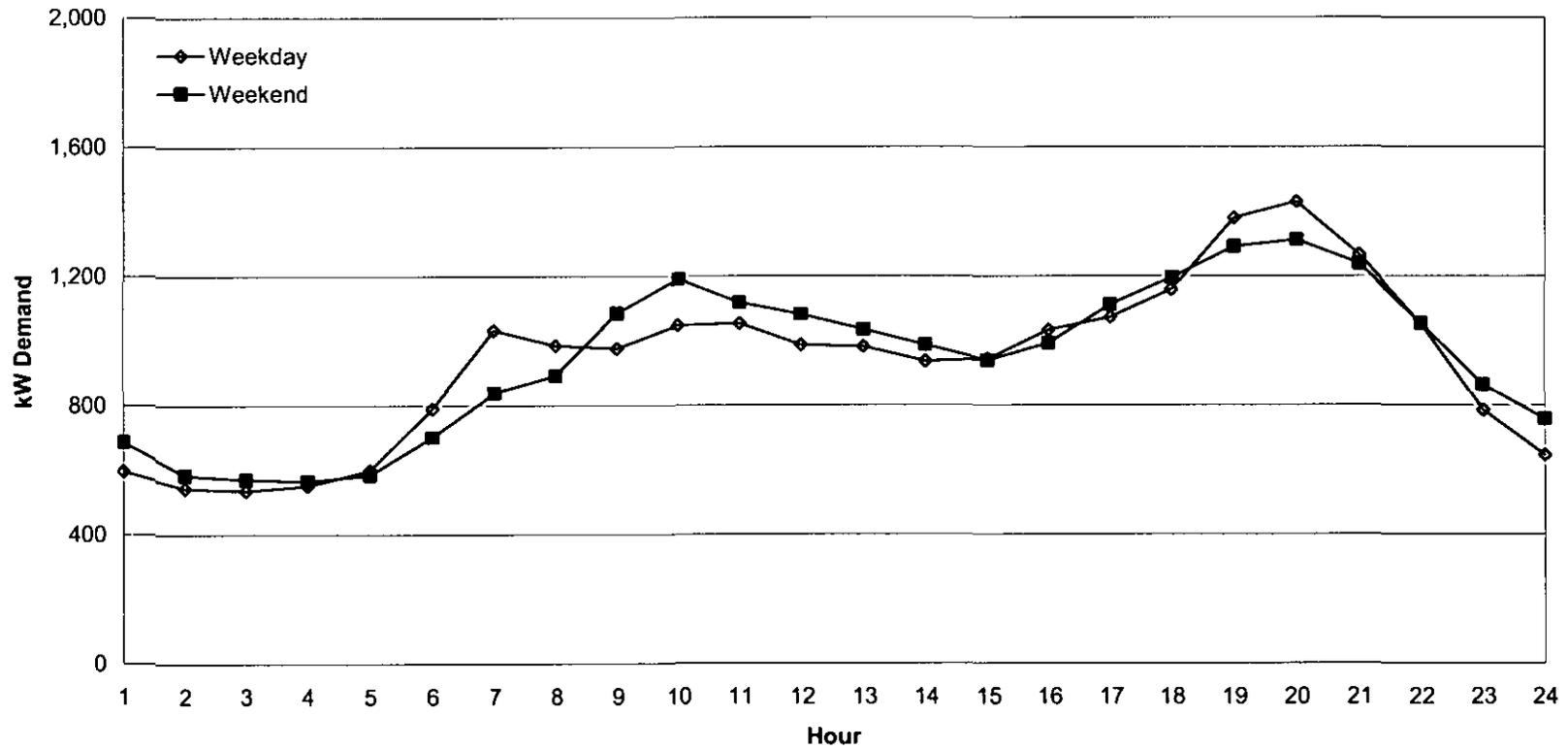
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Exhibit 5.1 g
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 July 2005



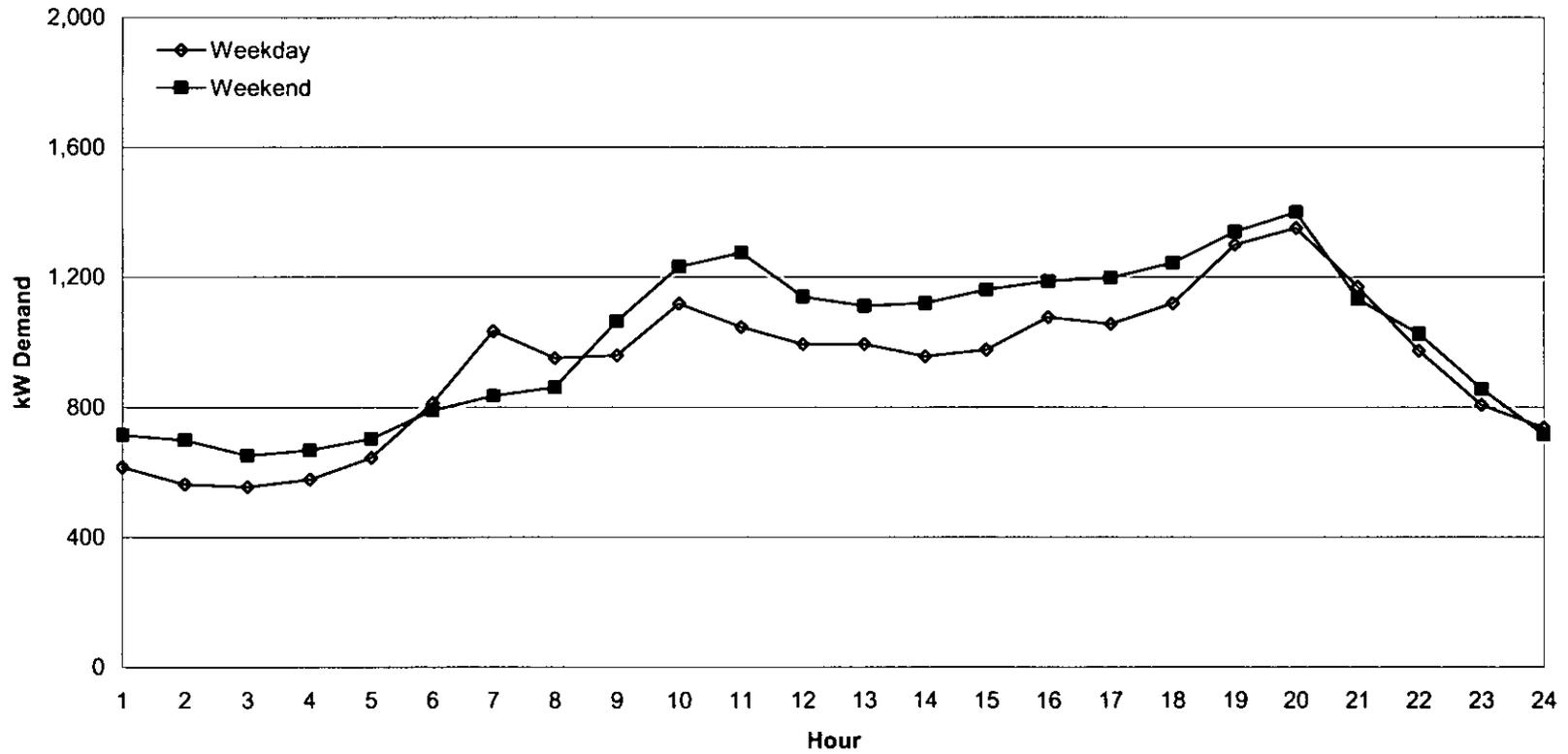
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Exhibit 5.1 h
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 August 2005



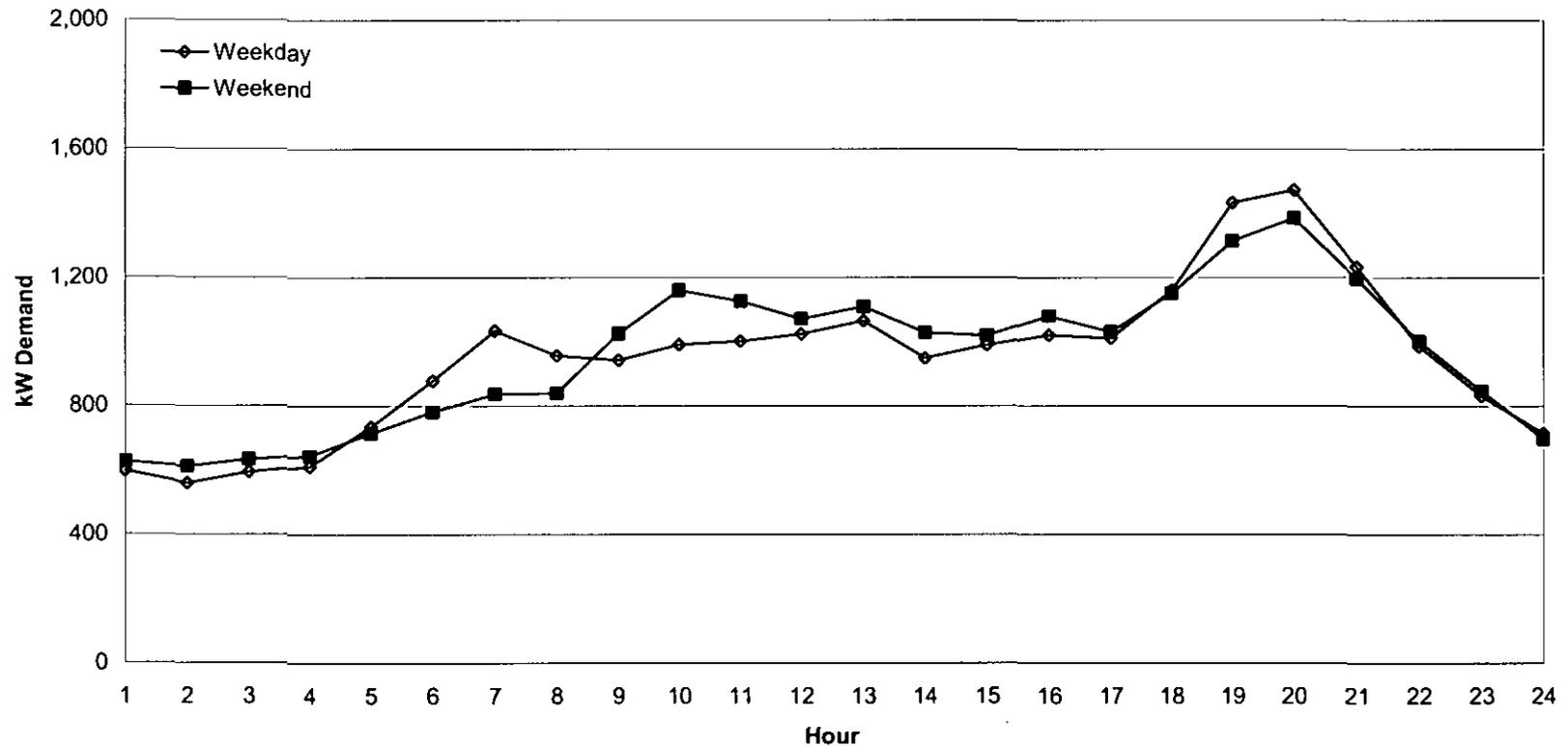
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Exhibit 5.1 i
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 September 2005



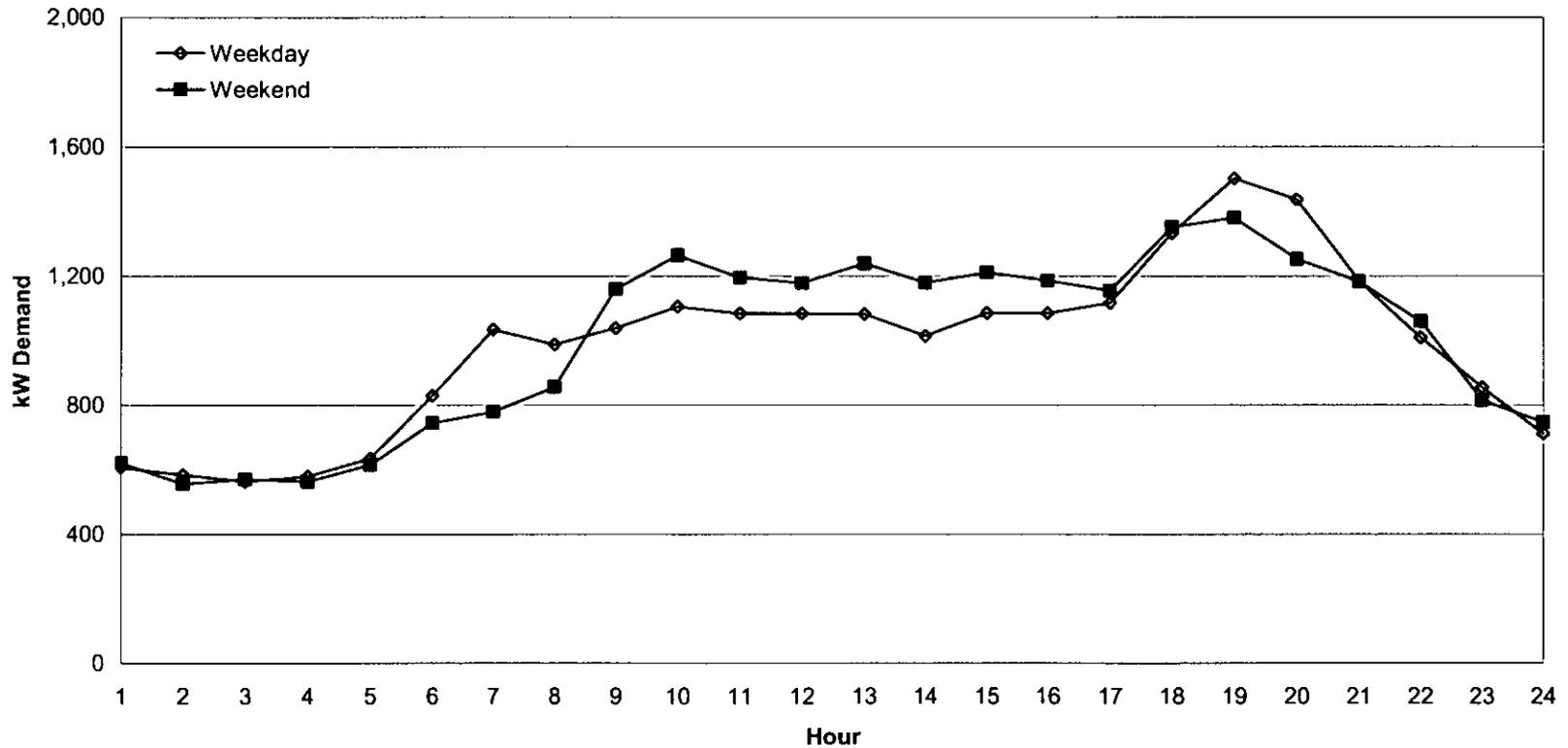
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Exhibit 5.1 j
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 October 2005



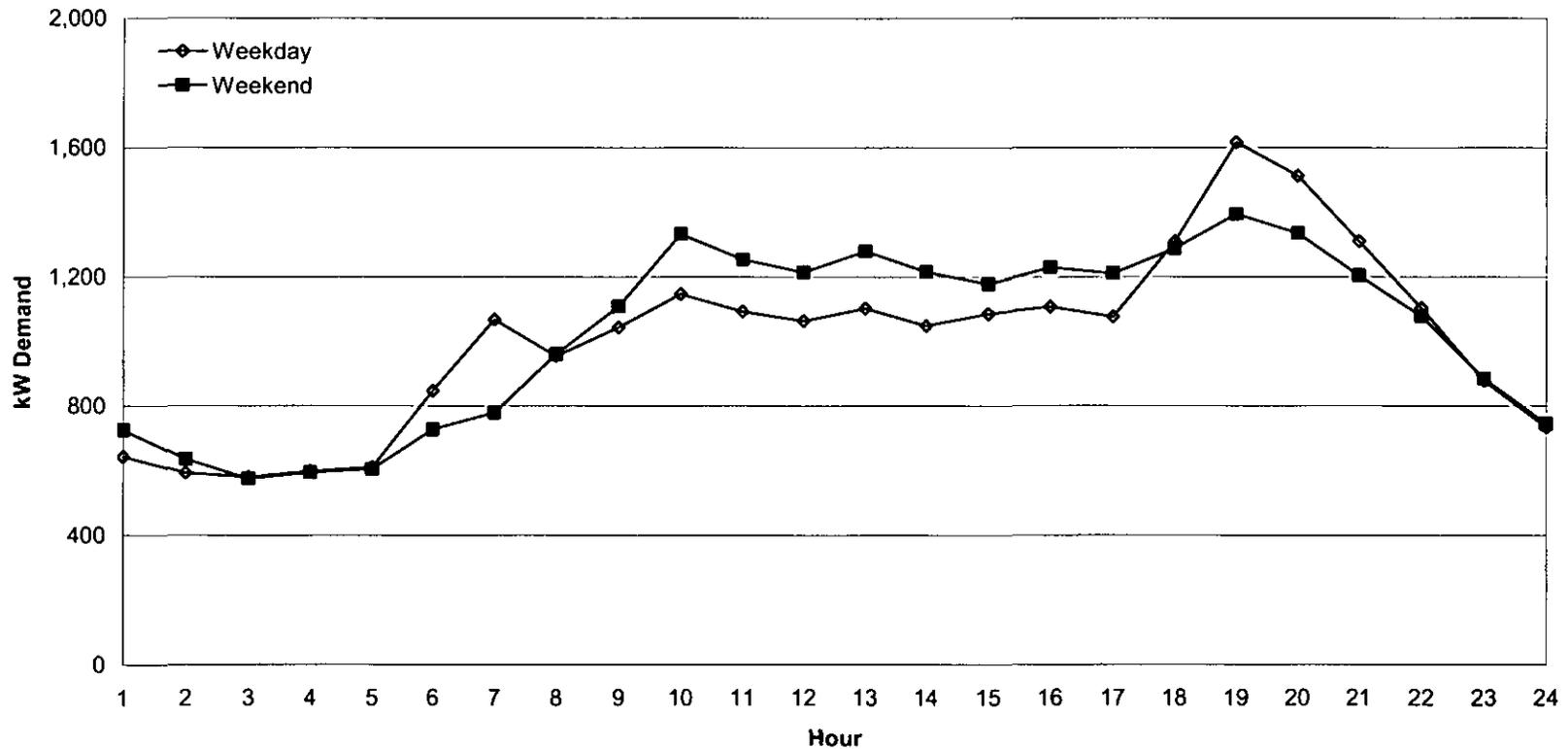
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Exhibit 5.1 k
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 November 2005



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Exhibit 5.11
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule R: Residential Service
 December 2005



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6. SCHEDULE G: GENERAL SERVICE NON-DEMAND

The General Service Non-demand class consists of small commercial customers who have demands less than 25 kW and monthly consumption under 5,000 kWh. During 2005 it contained an average of 171 customers, or 11% of all customers. Schedule G accounted for 1,874 MWh of sales in 2005, or 7% of the total.

The small commercial load data revealed these patterns and characteristics:

1. During 2005 Schedule G's average monthly consumption ranged from a low of 833 kWh in February to a high of 975 kWh in June. The weighted average monthly consumption for the 23 customers in the sample was 921 kWh, which was 0.8% above the average for the population, 913 kWh.
2. Table 6.1 summarizes the monthly small commercial load statistics per customer normalized to the sales level. Table 6.1 also shows the non-coincident and coincident demands of the small commercial sample.

The non-coincident demand is a customer's highest demand during a calendar month. The class non-coincident demand is the total non-coincident demand of all the customers in the class.

The coincident demand of a customer is the demand which a customer puts on the system at a specified time, either the system peak, daytime peak or class peak. The class coincident demand is the total demand of all customers in the class at the specified time.

The diversity factor represents the extent to which the peak demand of each individual customer in the class occurs simultaneously. It is the ratio of the maximum non-coincident demand per customer to the coincident demand per customer at the class peak, expressed as a percent.

The small commercial sample's average diversity factor was 180%. The average non-coincident demand per customer was 3.4 kW; the average coincident demand per customer at the class peak was 1.9 kW. The highest coincident demand occurred in June and September; the highest non-coincident demand occurred in June. The maximum coincident demand was higher in the first half of the year than in the last.

3. The sample's monthly load factor ranged from 64% to 71% during 2005, with an average monthly load factor of 67%.

4. Schedule G's monthly peaks occurred anywhere from before 9 AM (in January) to after 4 PM (in April). The small commercial hourly loads on the day of the class peak in each month are reported in Tables 6.2 (total class) and 6.3 (average per customer).
5. Table 6.4 summarizes the class contribution to the system and daytime peaks normalized to the gross generation. To extrapolate the demand from the sales level to the gross generation, the sample-based estimates for each class of sales at the peak hour were added, and the sum was normalized to the actual system or daytime peak for each month.

Schedule G's average contribution to the monthly system peaks, 6%, was slightly lower than its average contribution to the daytime peak, 7%.

Its contribution to the monthly system peaks ranged in amount from 0.2 MW in May to 0.4 MW in February and September, and in percentage from 4% in May to 8% in March.

The contribution to the daytime peak ranged in amount from 0.2 MW in January and November to 0.4 MW in February, and in percentage from 4% in November to 8% in February, March, May, June and August.

6. As shown in Table 6.5, 65% of the total small commercial kWh consumption occurred during the system on-peak period (7 AM to 9 PM daily), with 13% occurring during the system priority peak period (5 PM to 9 PM, Monday through Friday).
7. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 6.6 through 6.9. The gross weekend and weekday loads are graphed in Exhibits 6.1a through 6.1l.

Schedule G's weekday and weekend load profiles do not show a consistent pattern during the daytime from month to month. Starting at 7 PM its load decreases fairly smoothly to a minimum at 11 PM, except in May through August, when it declines steadily from its midday high. From 7 AM until 8 PM Schedule G's weekday loads averaged 19% higher than its weekend loads.

Table 6.1
SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
Schedule G: General Service Non-demand

Average per customer															
Month	Sample Size	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	23	884	65%	35%	01/14-9:00	1.8	1.4	1.0	3.5	194%	65%	34%	52%	40%	28%
February	23	833	66%	34%	02/24-16:00	1.9	1.7	1.7	3.6	188%	64%	34%	53%	46%	48%
March	23	922	66%	34%	03/08-15:00	1.8	1.4	1.6	3.4	186%	68%	37%	54%	42%	46%
April	23	863	66%	34%	04/13-17:00	1.9	1.5	1.4	3.4	180%	64%	35%	55%	43%	40%
May	23	965	65%	35%	05/09-12:00	1.9	1.1	1.7	3.6	185%	67%	36%	54%	30%	46%
June	23	975	65%	35%	06/08-10:00	2.1	1.6	1.7	3.7	172%	64%	37%	58%	45%	47%
July	23	920	63%	37%	07/06-15:00	1.8	1.5	1.5	3.2	176%	68%	38%	57%	47%	47%
August	23	950	64%	36%	08/17-13:00	1.9	1.2	1.7	3.2	174%	69%	39%	57%	37%	51%
September	23	955	65%	35%	09/07-12:00	2.1	1.5	1.3	3.5	170%	64%	38%	59%	43%	38%
October	23	932	63%	37%	10/27-13:00	1.8	1.5	1.5	3.0	172%	71%	41%	58%	48%	50%
November	23	880	63%	37%	11/03-12:00	1.8	1.3	0.9	3.2	181%	69%	38%	55%	40%	30%
December	23	880	64%	36%	12/07-16:00	1.7	1.4	1.4	3.1	186%	71%	38%	54%	45%	47%
Average	23	913	65%	35%		1.9	1.4	1.5	3.4	180%	67%	37%	56%	42%	43%

Notes:

- 1) kW Demand is 60-minute integrated demand.
- 2) On Peak is from 7 am to 9 pm daily.
- 3) Maximum non-coincident kW demand = individual maximum demands.
- 4) Diversity factor = ratio of the weighted sum of the maximum demand of each member of the class to the maximum coincident demand of the entire class.
- 5) Load factor = ratio (as a %) of kWh / (peak demand x number of hours).
- 6) Coincidence factor = ratio (as a %) of the maximum demand of the class to the weighted sum of the maximum demand of each member of the class.

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Table 6.2
 HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule G: General Service Non-demand
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	154	153	197	195	200	221	205	195	192	208	213	157
2	173	150	172	189	200	214	198	183	204	202	212	157
3	166	152	183	194	209	208	193	165	207	193	201	159
4	166	156	172	199	186	180	166	163	193	170	177	155
5	169	151	158	190	169	178	169	162	186	167	169	154
6	186	157	156	195	164	171	166	169	196	165	179	165
7	193	210	201	209	189	200	199	201	249	194	200	197
8	229	250	249	241	215	236	225	208	259	212	214	214
9	309	254	257	257	246	321	253	226	251	213	224	205
10	267	284	282	279	273	356	275	263	272	251	275	224
11	278	277	270	304	301	335	280	291	330	263	299	238
12	248	297	262	291	331	329	290	307	358	291	305	251
13	277	307	265	281	320	304	300	320	312	307	296	282
14	256	321	303	284	295	300	304	305	304	294	288	288
15	255	301	307	286	274	309	310	293	308	273	283	278
16	248	329	306	282	277	289	294	291	300	261	285	290
17	261	307	305	319	283	277	277	254	306	238	267	279
18	257	325	272	299	267	260	240	234	287	221	239	267
19	259	302	291	286	268	246	247	244	260	258	257	260
20	226	285	289	284	256	236	254	241	264	247	243	271
21	226	233	285	266	265	269	252	240	236	240	225	227
22	192	225	273	229	224	261	249	228	242	235	241	187
23	193	184	212	210	188	199	200	198	220	212	220	173
24	190	189	185	218	182	206	206	186	215	216	219	163
Average	224	242	244	249	241	254	240	232	256	230	239	218

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Table 6.3

HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS

Schedule G: General Service Non-demand
60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	0.91	0.89	1.17	1.15	1.17	1.33	1.20	1.13	1.11	1.20	1.23	0.91
2	1.02	0.88	1.02	1.11	1.17	1.28	1.17	1.07	1.18	1.17	1.23	0.91
3	0.98	0.89	1.08	1.14	1.22	1.25	1.14	0.96	1.20	1.11	1.16	0.92
4	0.98	0.91	1.02	1.17	1.09	1.08	0.98	0.95	1.12	0.98	1.02	0.90
5	0.99	0.88	0.93	1.12	0.99	1.07	0.99	0.94	1.07	0.97	0.98	0.89
6	1.09	0.92	0.92	1.14	0.96	1.03	0.98	0.98	1.13	0.95	1.04	0.96
7	1.14	1.23	1.19	1.23	1.11	1.20	1.17	1.17	1.44	1.12	1.15	1.14
8	1.35	1.46	1.47	1.42	1.26	1.42	1.32	1.21	1.50	1.23	1.24	1.24
9	1.82	1.48	1.52	1.51	1.44	1.92	1.49	1.31	1.45	1.23	1.29	1.18
10	1.57	1.66	1.67	1.64	1.60	2.13	1.62	1.53	1.57	1.45	1.59	1.30
11	1.64	1.62	1.60	1.79	1.76	2.01	1.65	1.69	1.91	1.52	1.73	1.37
12	1.46	1.74	1.55	1.71	1.93	1.97	1.71	1.79	2.07	1.68	1.77	1.45
13	1.63	1.80	1.57	1.65	1.87	1.82	1.77	1.86	1.80	1.77	1.71	1.63
14	1.51	1.88	1.79	1.67	1.73	1.80	1.79	1.78	1.76	1.70	1.66	1.66
15	1.50	1.76	1.81	1.68	1.60	1.85	1.82	1.70	1.78	1.58	1.64	1.61
16	1.46	1.92	1.81	1.66	1.62	1.73	1.73	1.69	1.74	1.51	1.65	1.68
17	1.54	1.80	1.81	1.88	1.65	1.66	1.63	1.47	1.77	1.38	1.54	1.62
18	1.51	1.90	1.61	1.76	1.56	1.56	1.41	1.36	1.66	1.28	1.38	1.54
19	1.52	1.77	1.72	1.68	1.57	1.47	1.45	1.42	1.50	1.49	1.48	1.50
20	1.33	1.67	1.71	1.67	1.50	1.42	1.49	1.40	1.52	1.43	1.40	1.57
21	1.33	1.36	1.68	1.57	1.55	1.61	1.48	1.39	1.36	1.39	1.30	1.31
22	1.13	1.32	1.61	1.34	1.31	1.56	1.46	1.33	1.40	1.36	1.39	1.08
23	1.14	1.08	1.25	1.23	1.10	1.19	1.18	1.15	1.27	1.22	1.27	1.00
24	1.12	1.11	1.10	1.28	1.06	1.24	1.21	1.08	1.24	1.25	1.27	0.94
Average	1.32	1.41	1.44	1.47	1.41	1.52	1.41	1.35	1.48	1.33	1.38	1.26

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Table 6.4
CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS
 Schedule G: General Service Non-demand
 60-Minute Integrated kW Demand at the Gross Level, Normalized

<u>Month</u>	<u>SYSTEM PEAK</u>		<u>DAYTIME PEAK</u>	
	<u>CLASS kW</u>	<u>% OF SYSTEM</u>	<u>CLASS kW</u>	<u>% OF SYSTEM</u>
January	292	6%	219	5%
February	359	8%	366	8%
March	303	6%	343	8%
April	318	7%	315	7%
May	193	4%	354	8%
June	318	7%	346	8%
July	319	7%	348	7%
August	256	5%	348	8%
September	352	7%	261	6%
October	311	7%	291	6%
November	298	6%	214	4%
December	316	6%	306	6%
Average	303	6%	309	7%

Note: The annual instantaneous system peak of 5.2 MW occurred on December 27, 2005 @ 18:35

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Table 6.5
CLASS kWh LOAD BY TIME-OF-USE AT THE SALES LEVEL
 Schedule G: General Service Non-demand

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	18,756	79,694	51,900	150,350	12%	53%	35%	100%
February	18,795	75,768	47,888	142,452	13%	53%	34%	100%
March	21,362	81,098	53,338	155,798	14%	52%	34%	100%
April	19,925	76,428	50,319	146,671	14%	52%	34%	100%
May	20,691	86,136	58,140	164,967	13%	52%	35%	100%
June	20,898	84,173	57,741	162,812	13%	52%	35%	100%
July	18,528	80,449	57,340	156,317	12%	51%	37%	100%
August	20,418	84,094	58,849	163,360	13%	51%	36%	100%
September	21,175	85,893	58,181	165,249	13%	52%	35%	100%
October	20,171	81,903	59,149	161,223	13%	51%	37%	100%
November	19,021	77,502	55,666	152,189	13%	51%	37%	100%
December	19,347	78,815	54,102	152,263	13%	52%	36%	100%
Total	239,086	971,952	662,614	1,873,651				
Percent	13%	52%	35%	100%				

Note: Normalized sales from sample estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday 7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

Table 6.6
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule G: General Service Non-demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	159	164	188	174	195	196	200	215	200	211	220	189
2	170	168	183	175	187	189	194	209	195	214	212	183
3	176	180	183	176	204	194	198	197	191	207	215	183
4	179	182	188	190	199	191	189	192	191	187	198	181
5	187	200	205	204	206	204	201	209	206	197	214	198
6	210	219	221	217	225	214	215	227	230	210	225	208
7	234	240	244	218	251	228	227	246	245	222	237	216
8	241	234	239	218	245	239	237	238	230	210	232	228
9	240	240	239	231	250	265	266	248	235	222	229	228
10	257	273	279	269	287	293	304	285	281	274	276	247
11	274	283	285	274	301	310	306	292	300	289	281	257
12	273	288	291	283	316	313	308	296	311	289	289	262
13	273	293	288	289	314	311	289	300	295	288	286	268
14	267	295	288	282	314	301	301	296	291	286	283	278
15	262	279	287	282	302	295	289	292	297	281	280	262
16	258	282	280	273	297	289	277	280	287	288	282	265
17	252	283	272	262	287	276	263	271	284	286	284	267
18	270	276	263	263	279	266	250	259	287	277	293	278
19	264	277	277	264	270	258	252	266	295	274	285	266
20	222	240	236	244	249	251	256	261	268	248	257	248
21	216	221	233	226	254	255	246	253	243	224	235	231
22	180	187	204	190	220	232	237	236	230	229	227	201
23	151	159	162	156	180	188	183	204	198	206	208	184
24	160	164	171	170	194	200	198	215	205	213	219	191
Average	224	234	238	230	251	248	245	249	250	243	249	230

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Table 6.7
 AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
 Schedule G: General Service Non-demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	160	164	187	172	195	206	199	200	197	198	191	175
2	159	160	170	165	187	194	187	188	193	196	185	166
3	163	161	165	161	190	185	178	177	186	190	185	165
4	160	156	161	167	176	171	165	167	179	167	169	161
5	154	157	160	164	169	172	163	166	180	168	171	164
6	162	166	161	160	168	170	164	170	186	169	176	172
7	195	196	196	178	196	192	187	196	206	182	192	190
8	212	214	212	196	215	214	204	208	218	194	201	203
9	224	229	223	219	235	248	230	226	230	209	206	211
10	229	250	246	244	263	267	252	253	268	248	233	232
11	245	258	251	249	272	280	259	265	283	261	244	241
12	244	264	256	256	282	284	264	273	292	265	250	247
13	245	266	260	259	281	286	262	276	288	262	251	252
14	249	273	265	259	283	286	263	276	289	265	255	258
15	243	269	264	254	282	283	258	270	291	262	257	247
16	242	268	259	251	275	277	253	265	289	266	257	248
17	248	268	261	252	269	266	245	252	278	258	255	237
18	241	263	250	244	250	245	222	234	264	245	248	236
19	246	256	245	236	238	235	223	226	260	255	254	241
20	234	249	243	239	248	249	236	233	253	243	237	231
21	216	220	234	229	249	265	244	235	232	217	212	213
22	186	195	202	192	220	238	232	224	219	225	207	192
23	167	174	171	171	191	205	200	201	200	209	196	178
24	163	169	170	169	197	213	202	203	199	206	195	180
Average	208	219	217	212	231	235	221	224	237	223	218	210

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Table 6.8
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule G: General Service Non-demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	168	173	178	165	188	199	193	208	200	207	211	195
2	174	184	162	167	179	178	197	214	199	211	213	188
3	165	182	180	173	200	185	191	206	197	201	202	187
4	188	188	190	184	203	177	177	190	188	180	190	186
5	207	205	206	188	201	192	189	203	202	194	204	201
6	212	223	221	205	210	202	202	217	214	198	204	203
7	225	223	220	191	204	192	201	223	222	196	207	203
8	207	204	213	183	211	201	195	216	201	193	202	204
9	213	227	209	184	214	217	203	220	212	198	195	207
10	223	242	230	214	240	224	224	235	235	215	218	218
11	229	234	228	224	245	246	241	258	254	232	232	240
12	229	246	254	226	254	246	240	272	267	241	237	241
13	233	242	235	216	253	241	230	252	246	236	234	224
14	237	239	237	222	243	236	221	242	227	237	238	218
15	238	233	230	217	233	230	217	241	224	230	221	213
16	232	238	222	205	232	217	205	235	222	220	227	212
17	235	239	234	225	220	237	208	225	221	225	234	213
18	238	231	231	217	222	231	203	225	221	228	256	238
19	241	254	238	227	237	235	202	228	249	255	267	253
20	215	241	223	224	235	237	228	250	249	231	255	242
21	203	202	214	205	236	235	225	236	238	206	224	219
22	171	197	189	178	215	215	215	236	214	224	222	199
23	156	177	162	153	180	178	173	205	195	209	210	196
24	164	176	167	162	190	206	195	208	205	215	217	195
Average	209	217	211	198	218	215	207	227	221	216	222	212

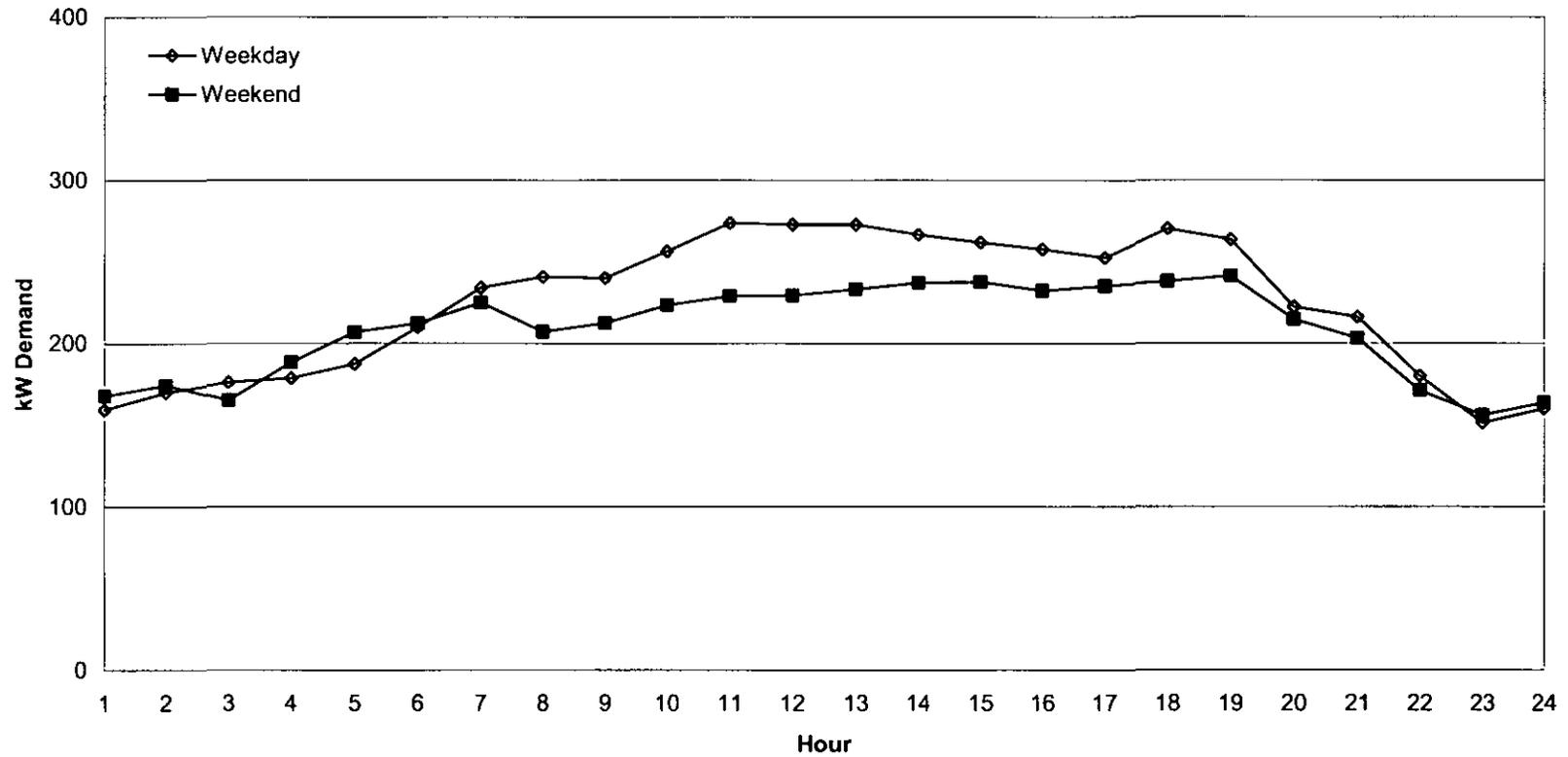
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Table 6.9
AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule G: General Service Non-demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	165	175	176	167	196	208	197	201	199	201	190	181
2	162	167	165	161	185	192	189	199	198	198	186	172
3	158	167	162	159	187	184	180	192	188	193	177	168
4	163	164	159	163	181	169	159	169	177	169	167	166
5	166	164	159	160	172	169	160	169	180	174	170	167
6	171	174	163	161	167	166	159	173	183	174	174	174
7	186	188	179	161	173	167	167	182	190	173	174	175
8	186	182	187	166	190	186	172	190	185	170	178	179
9	192	202	191	179	199	207	184	210	213	188	188	195
10	205	218	204	194	216	216	198	219	229	206	196	210
11	203	218	207	206	218	222	211	238	246	216	210	223
12	209	228	217	207	227	231	222	249	252	228	219	224
13	208	219	214	203	233	230	213	237	241	218	216	213
14	219	218	220	209	226	227	203	231	238	225	218	212
15	218	222	210	204	219	223	192	219	231	217	206	200
16	216	216	209	199	214	217	189	214	227	210	207	203
17	218	224	222	210	216	225	193	213	221	206	208	198
18	210	214	212	203	209	209	189	204	213	206	216	200
19	220	224	207	202	213	210	187	199	226	232	236	223
20	213	232	210	213	228	232	214	225	237	231	228	214
21	197	203	198	206	224	239	218	225	224	204	208	198
22	175	191	179	171	204	218	208	224	211	213	204	186
23	169	175	165	160	184	191	184	205	200	208	198	181
24	165	168	162	163	196	209	196	199	203	205	194	179
Average	191	198	191	184	203	206	191	208	213	203	199	193

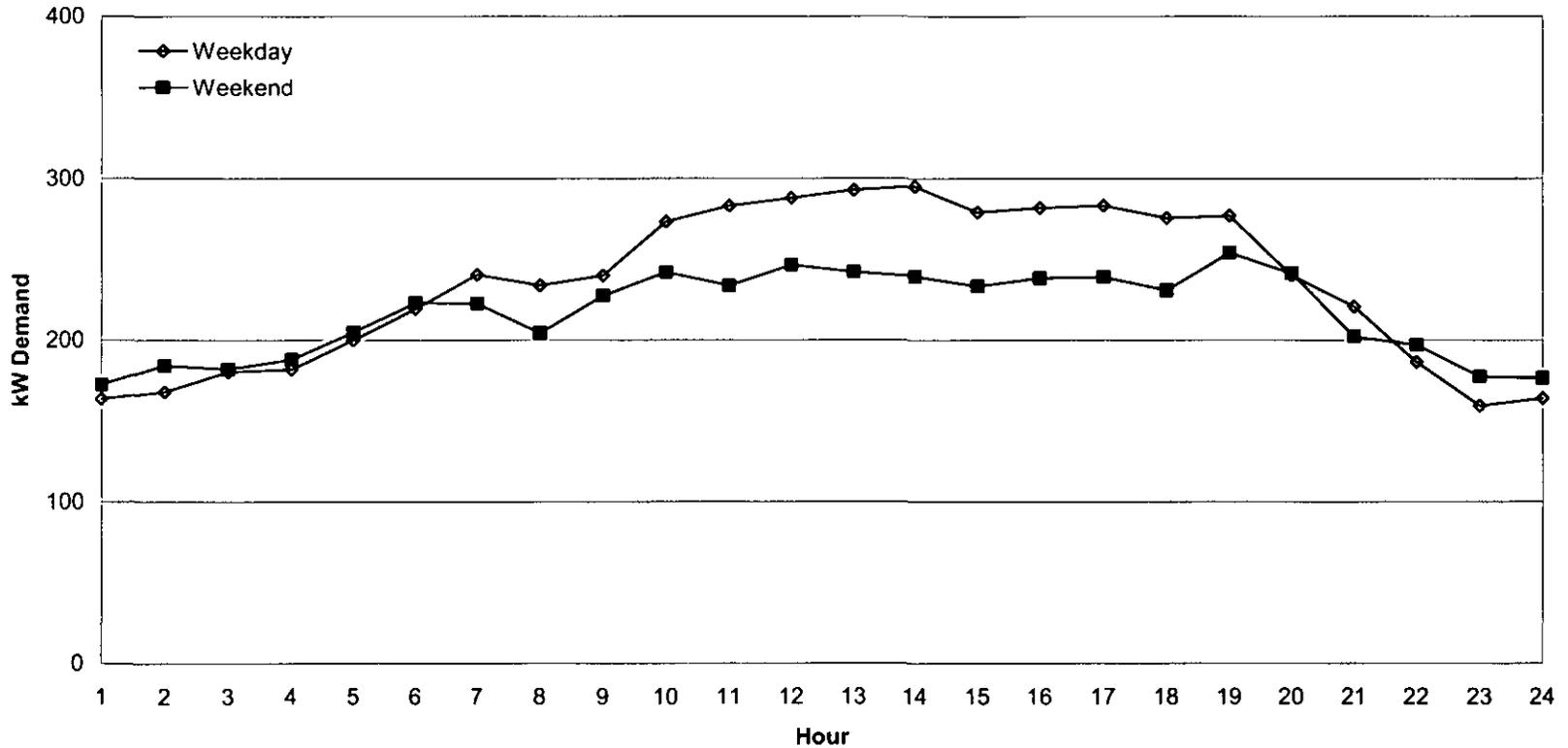
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Exhibit 6.1 a
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 January 2005



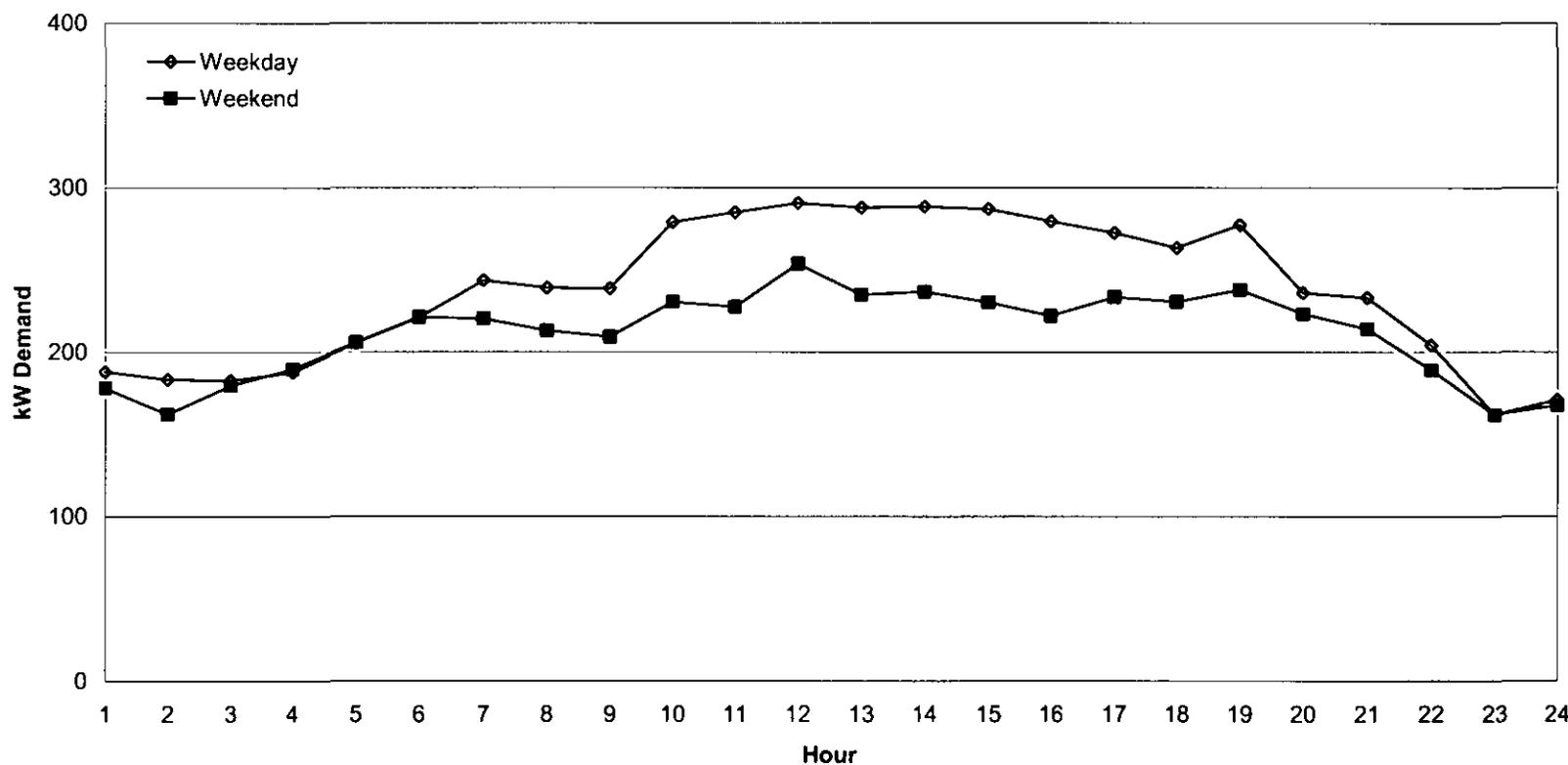
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Exhibit 6.1 b
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 February 2005



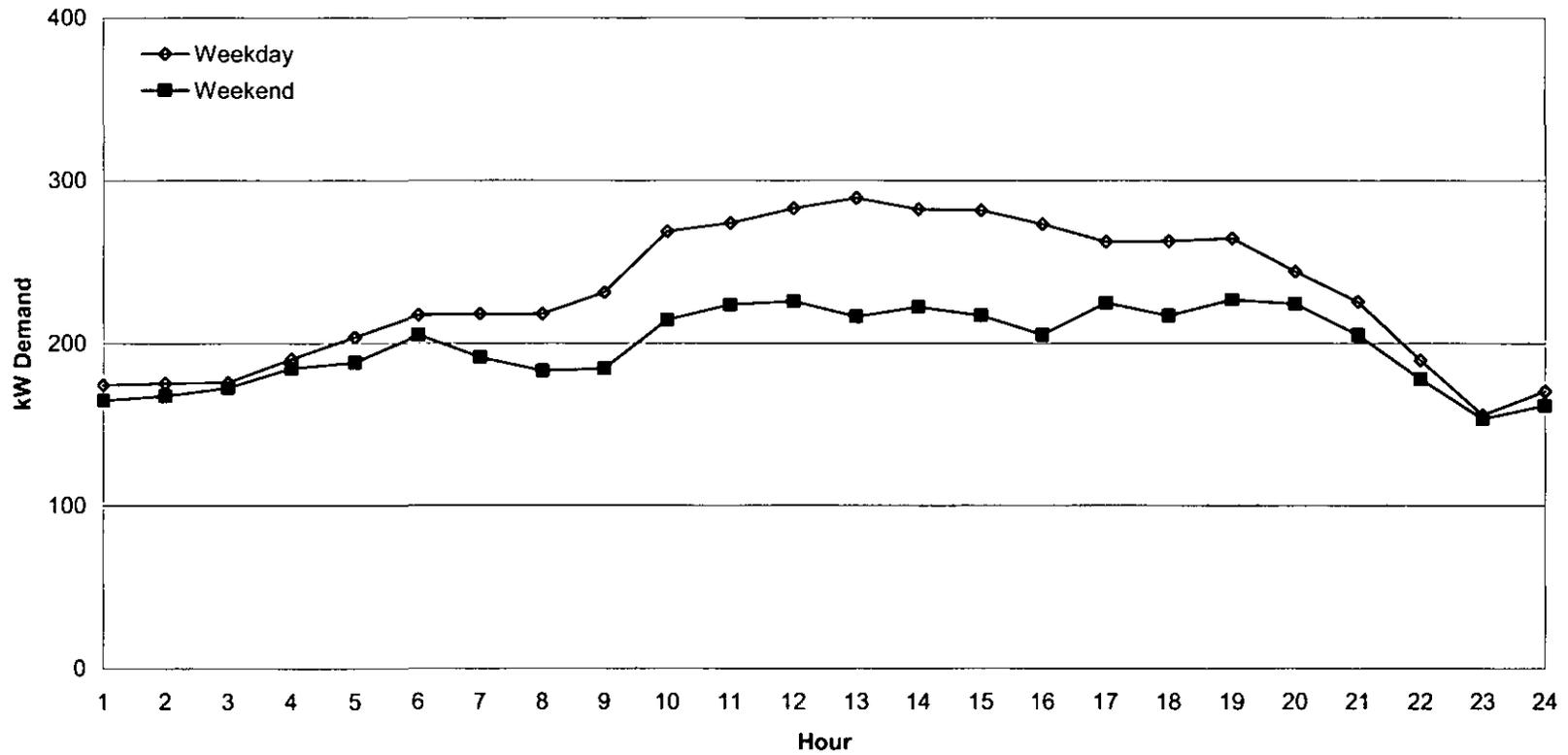
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Exhibit 6.1 c
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 March 2005



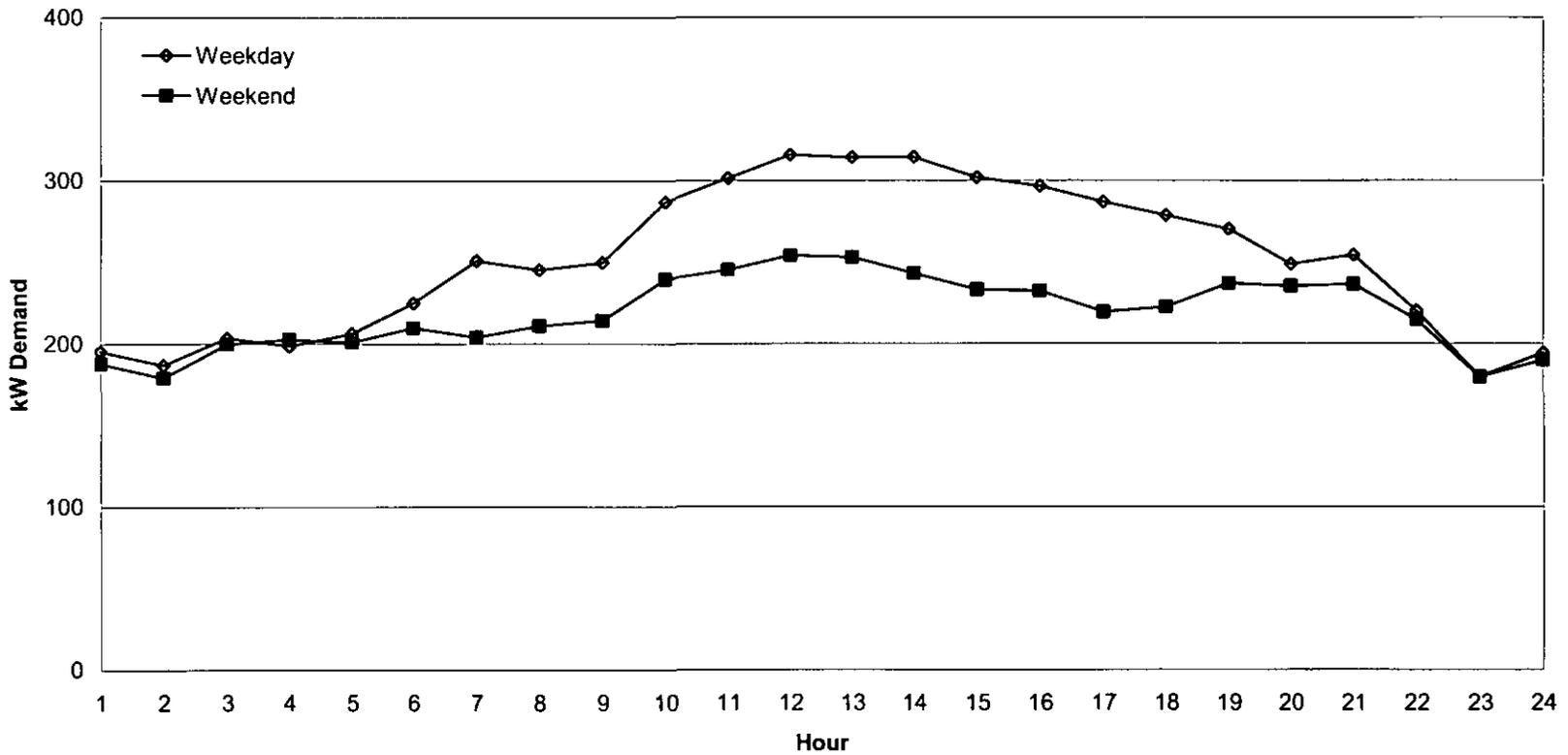
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Exhibit 6.1 d
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 April 2005



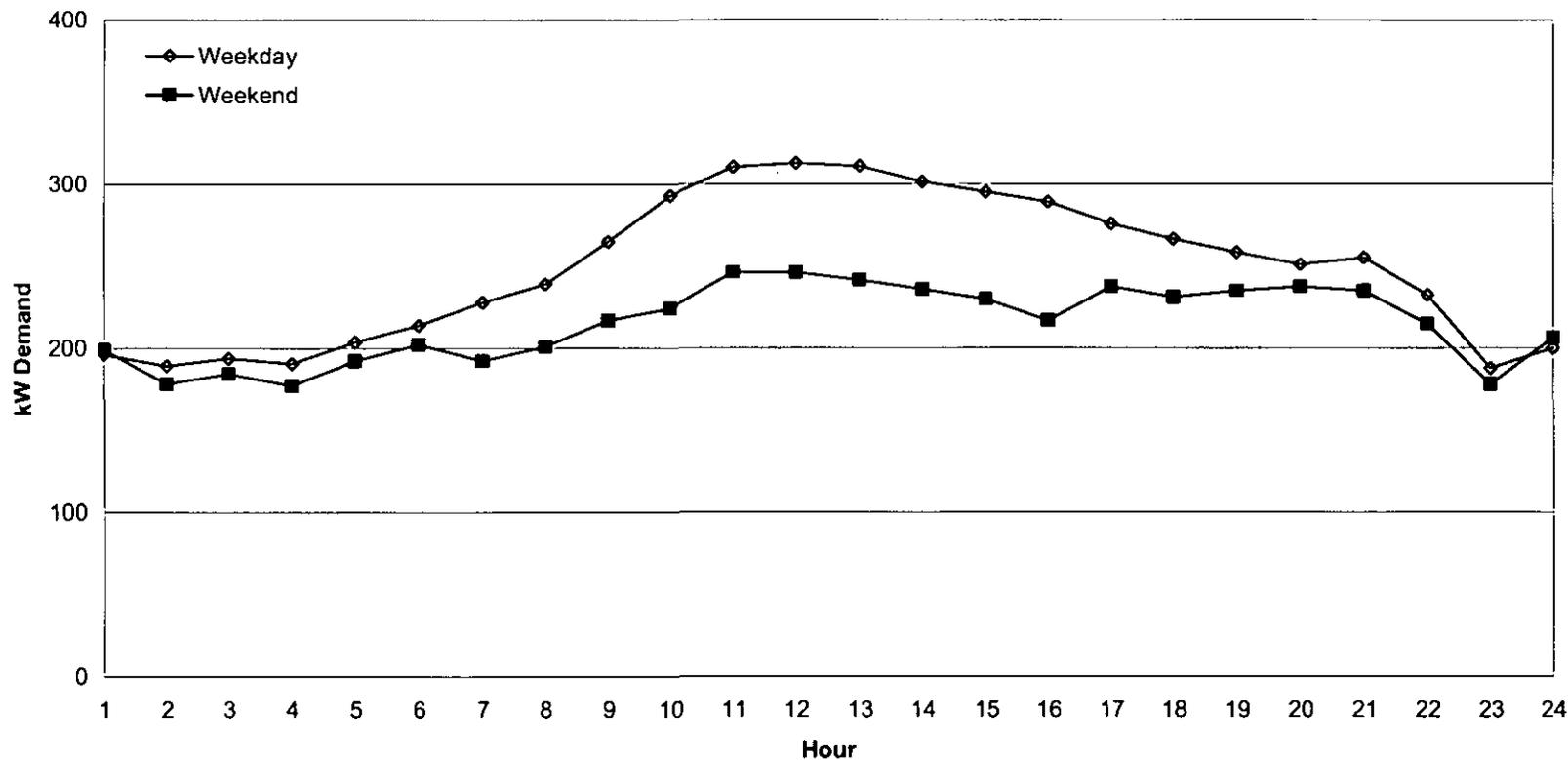
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Exhibit 6.1 e
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 May 2005



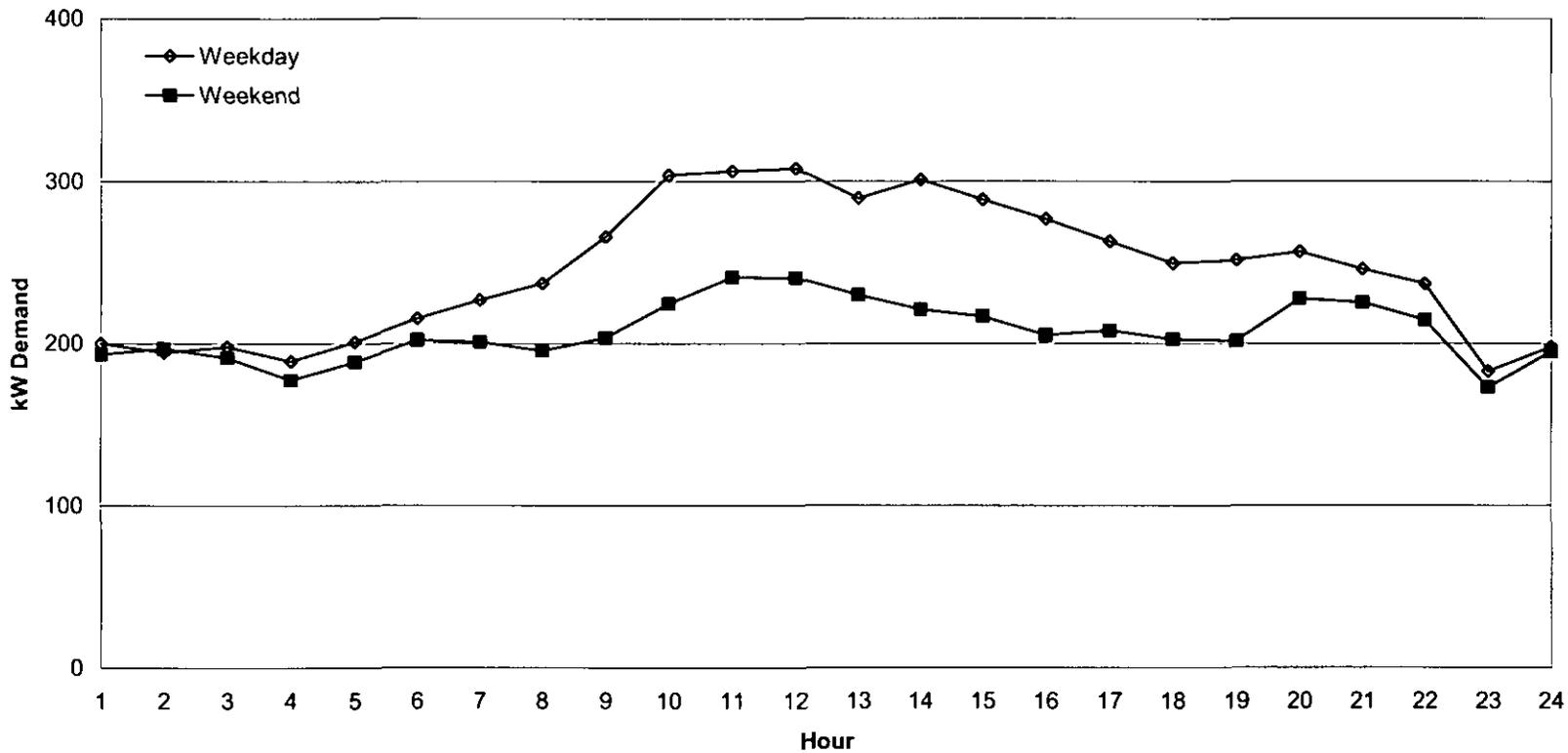
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Exhibit 6.1 f
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 June 2005



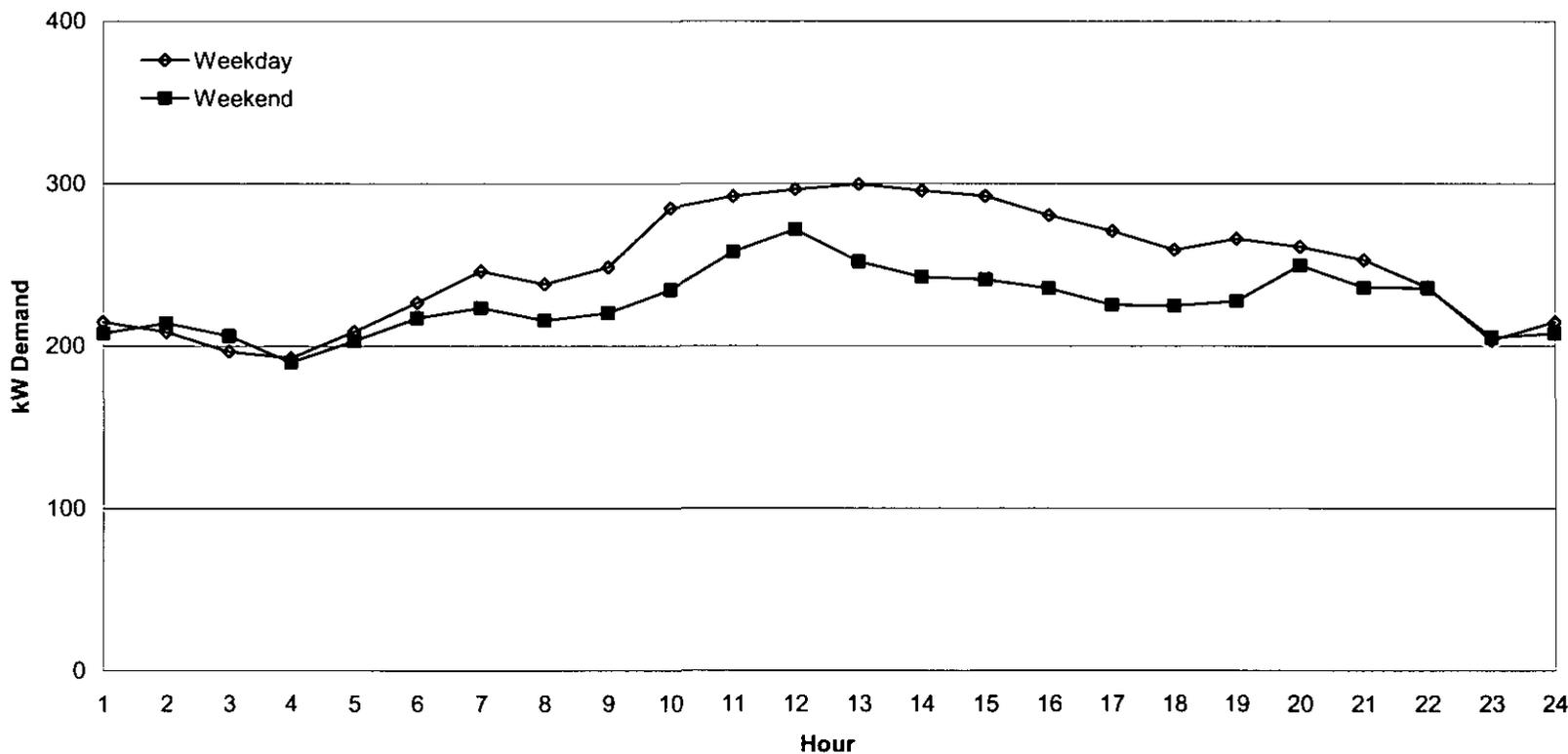
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Exhibit 6.1 g
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 July 2005



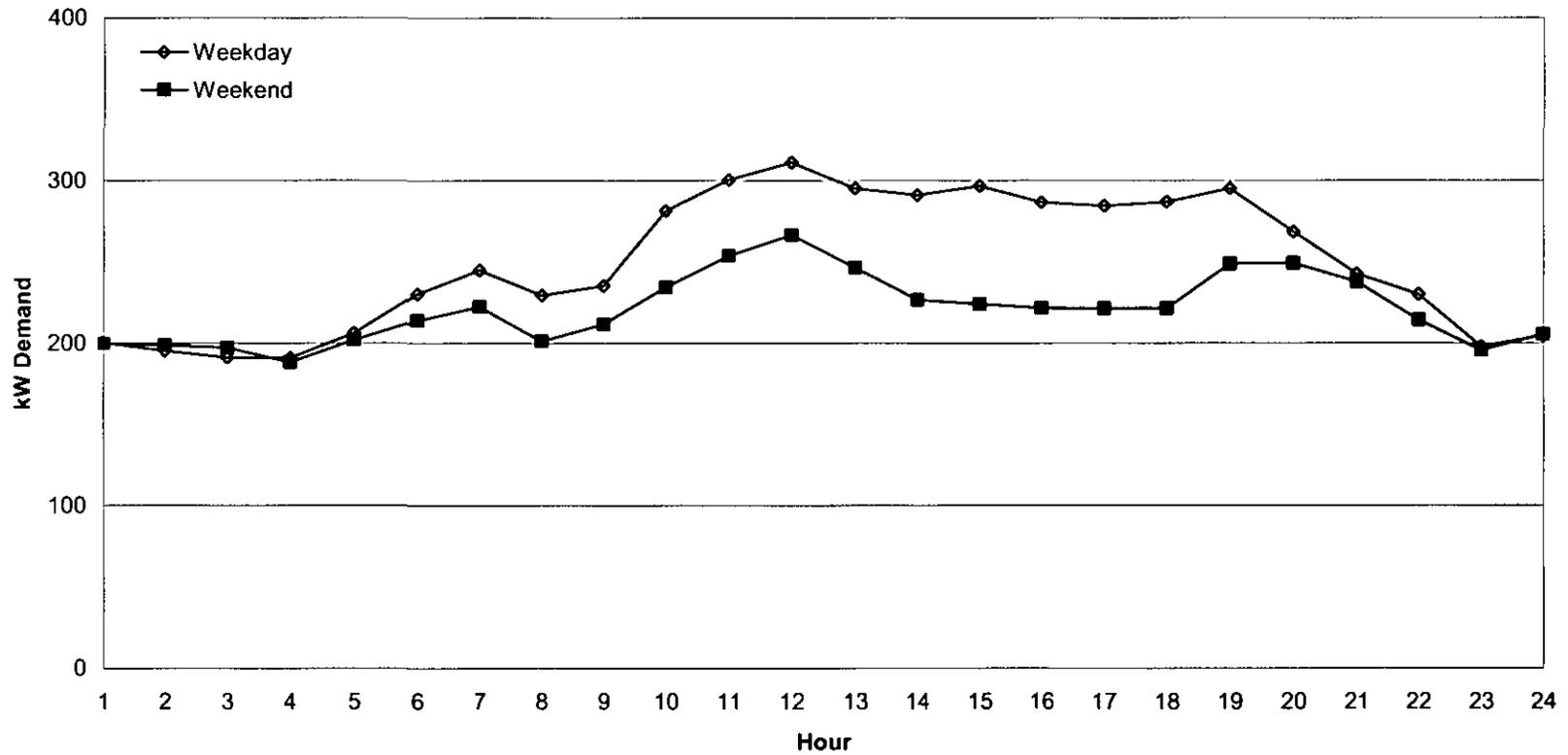
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Exhibit 6.1 h
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 August 2005



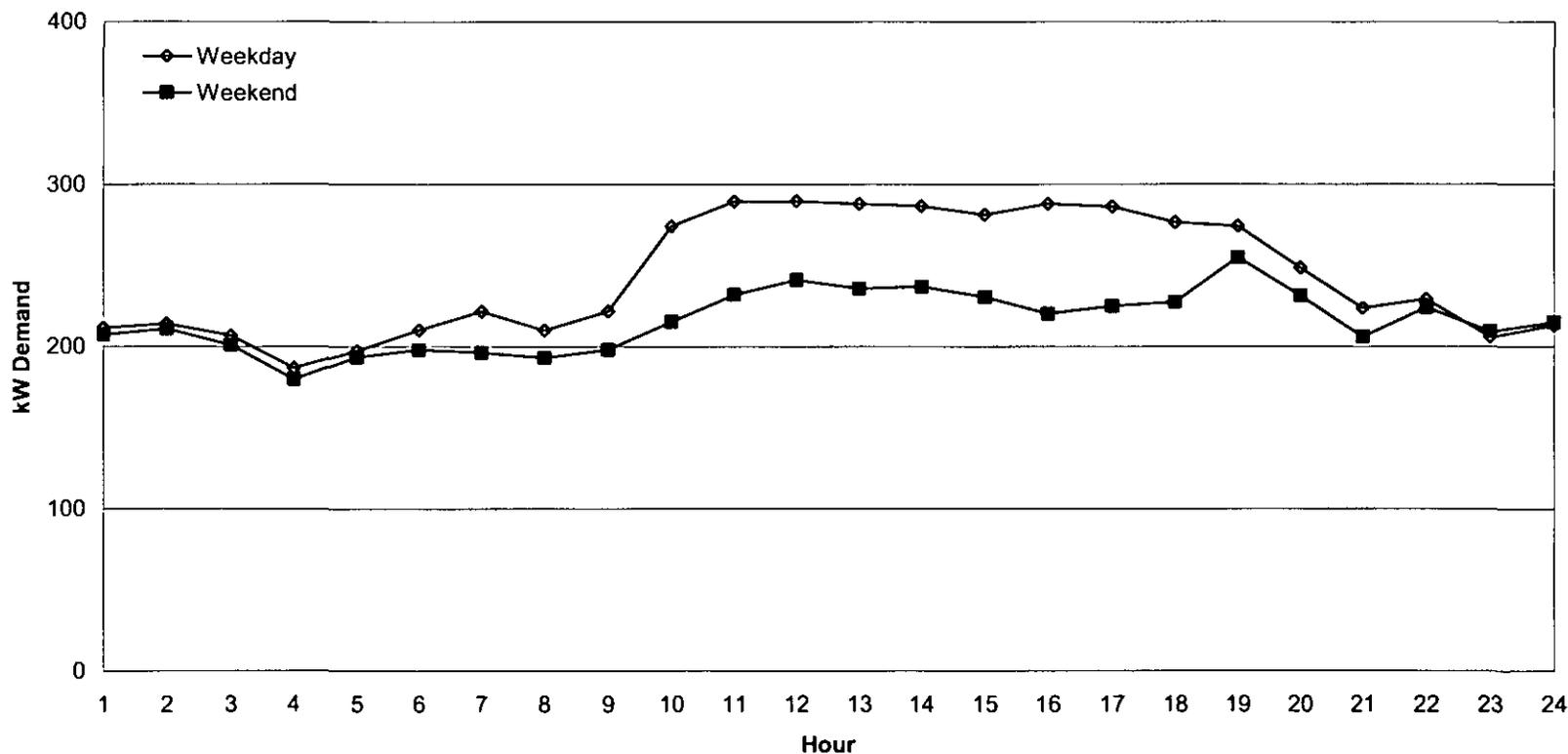
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Exhibit 6.1 i
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 September 2005



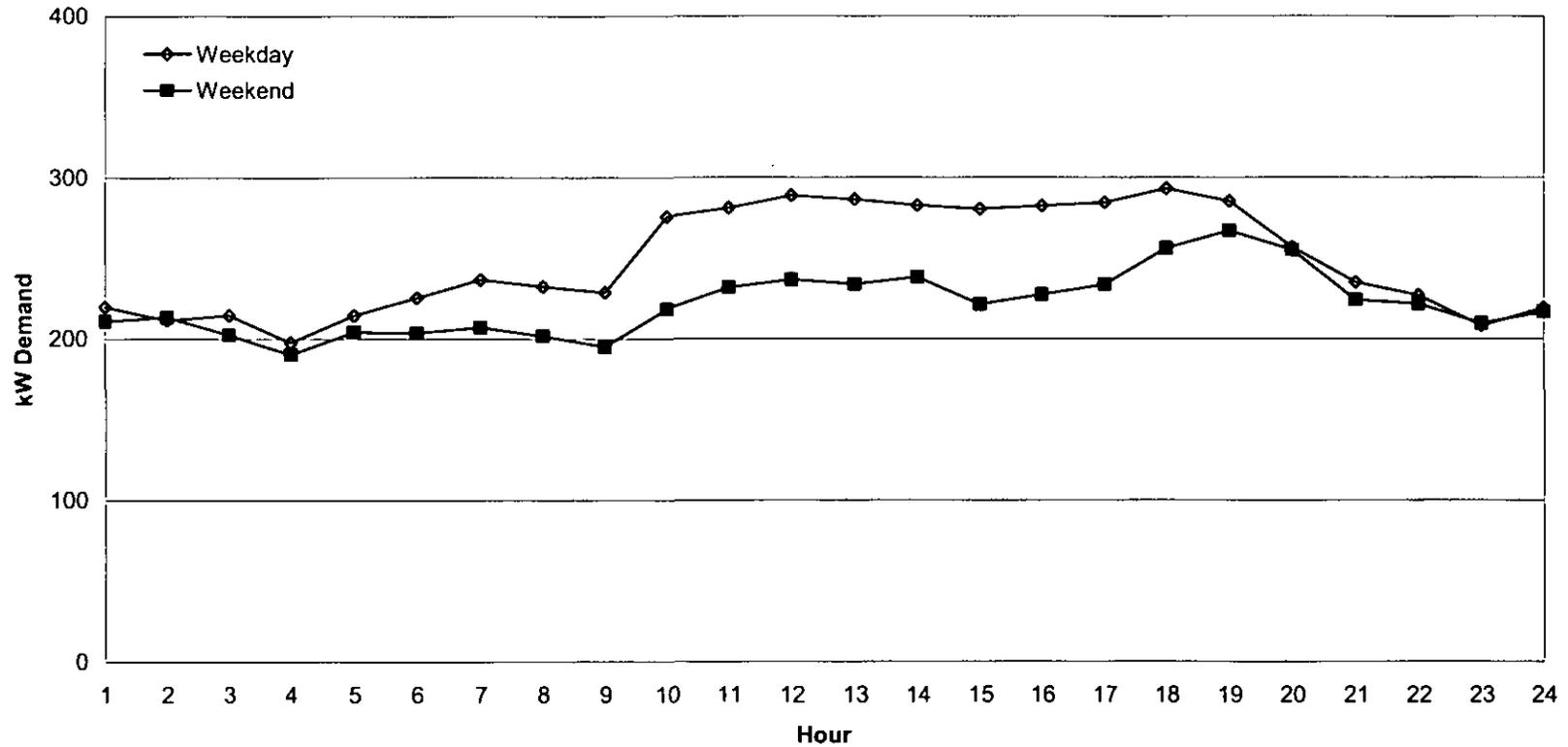
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Exhibit 6.1 j
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 October 2005



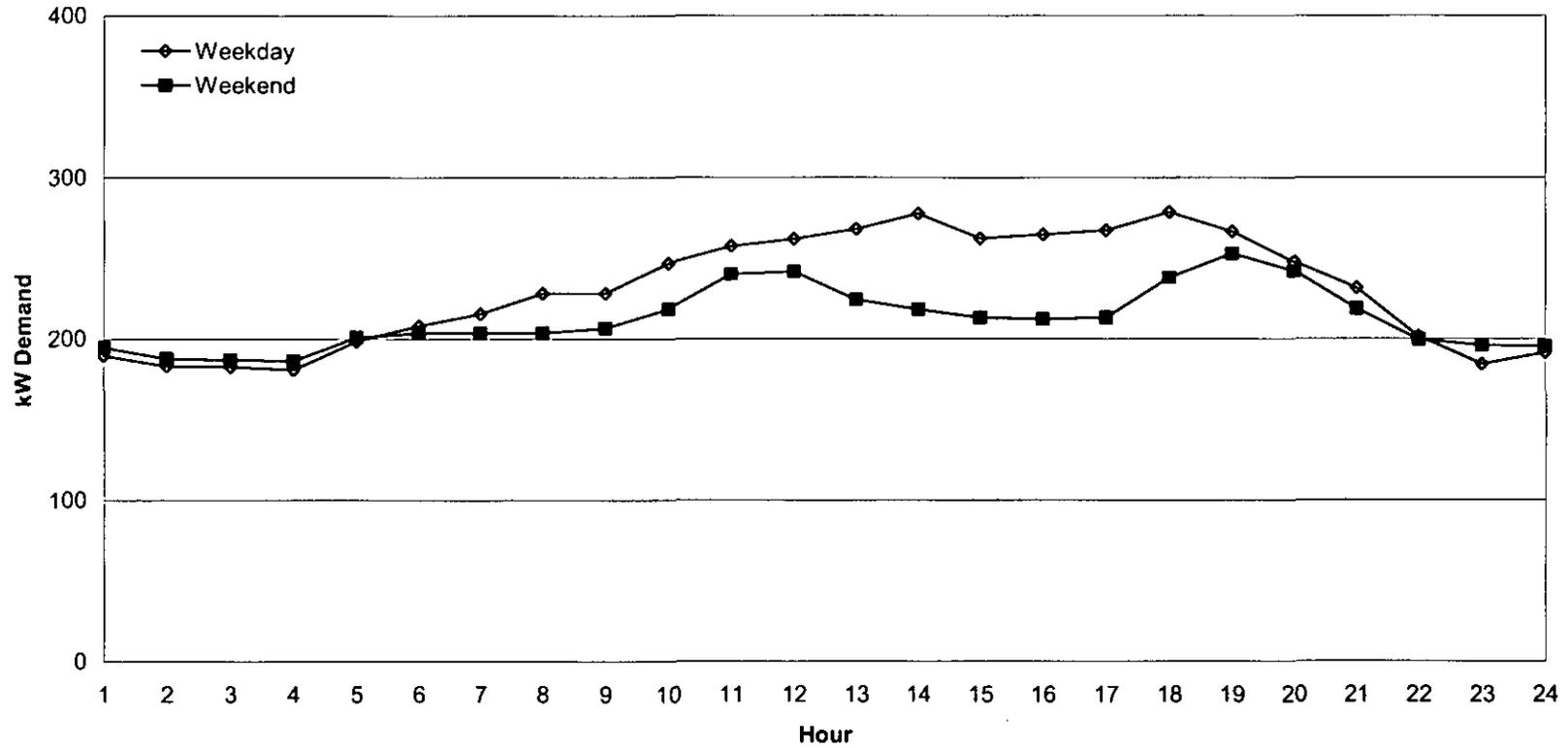
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Exhibit 6.1 k
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 November 2005



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Exhibit 6.1 I
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule G: General Service Non-demand
 December 2005



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7. SCHEDULE J: GENERAL SERVICE DEMAND

The General Service Demand rate class consists of commercial customers who exceed 25 kW demand and monthly consumption of 5,000 kWh. During 2005 it contained an average of 33 customers, or 2% of all customers. Schedule J accounted for 5,973 MWh of sales in 2005, or 21% of the total.

Schedule J's load data revealed these patterns and characteristics:

1. During 2005 Schedule J's average monthly consumption ranged from a low of 12,147 kWh in January to a high of 17,770 kWh in September. The weighted average monthly consumption for the 12 customers in the sample was 15,072 kWh, which was 0.2% above the average for the population, 15,047 kWh.
2. Table 7.1 summarizes the monthly Schedule J load statistics per customer normalized to the sales level. Table 7.1 also shows the non-coincident and coincident demands of the residential sample.

The non-coincident demand is a customer's highest demand during a calendar month. The class non-coincident demand is the total non-coincident demand of all the customers in the class.

The coincident demand of a customer is the demand which a customer puts on the system at a specified time, either the system peak, daytime peak or class peak. The class coincident demand is the total demand of all customers in the class at the specified time.

The diversity factor represents the extent to which the peak demand of each individual customer in the class occurs simultaneously. It is the ratio of the maximum non-coincident demand per customer to the coincident demand per customer at the class peak, expressed as a percent.

The Schedule J sample's average diversity factor was 125%. The average non-coincident demand per customer was 43.9 kW; the average coincident demand per customer at the class peak was 35.0 kW. The highest coincident demand and the highest non-coincident demand occurred in September. The maximum coincident demand varied considerably, from 32.8 kW in January to 51.2 in September.

3. The sample's monthly load factor ranged from 55% to 64% during 2005, with an average monthly load factor of 59%.

4. Schedule J's monthly peaks occurred from between 8 AM and 9 AM (in July) to between 1 PM to 2 PM (in February and June). Its hourly loads on the day of the class peak in each month are reported in Tables 7.2 (total class) and 7.3 (average per customer).
5. Table 7.4 summarizes the class contribution to the system and day peaks normalized to the gross generation. To extrapolate the demand from the sales level to the gross generation, the sample-based estimates for each class of sales at the peak hour were added, and the sum was normalized to the actual system or daytime peak for each month.

Schedule J's average contribution to the monthly system peaks, 18%, was considerably lower than its average contribution to the day peak, 28%.

Its contribution to the monthly system peaks ranged in amount from 0.7 MW in January to 1.1 MW in September, and in percentage from 14% in January to 22% in September.

The contribution to the daytime peak ranged in amount from 0.9 MW in January to 1.5 MW in July, and in percentage from 19% in January to 31% in February, March, July and September.

6. As shown in Table 7.5, 81% of the total Schedule J kWh consumption occurred during the system on-peak period (7 AM to 9 PM daily), with 11% occurring during the system priority peak period (5 PM to 9 PM, Monday through Friday).
7. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 7.6 through 7.9. The gross weekend and weekday loads are graphed in Exhibits 7.1a through 7.1l.

Schedule J's weekday load profiles were inconsistent from month to month during the daytime. Weekday loads usually declined throughout the afternoon, with a notable drop-off after 6 PM. From 8 AM until 6 PM Schedule J's weekday loads averaged 10% higher than its weekend loads, but after 6 PM weekday and weekend loads were virtually the same.

Table 7.1
 SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
 Schedule J: General Service Demand

Average per customer															
Month	Sample Size	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	12	12,147	72%	28%	01/19-11:00	29.2	16.8	18.5	32.8	112%	56%	50%	89%	51%	57%
February	12	13,604	72%	28%	02/24-14:00	35.0	22.5	33.5	43.2	124%	58%	47%	81%	52%	77%
March	12	15,061	71%	29%	03/08-10:00	36.4	19.6	32.0	45.4	125%	56%	45%	80%	43%	70%
April	12	14,250	72%	28%	04/11-12:00	32.6	22.1	26.5	41.4	127%	61%	48%	79%	53%	64%
May	12	16,122	71%	29%	05/11-11:00	36.6	23.2	33.2	44.9	122%	59%	48%	82%	52%	74%
June	12	14,872	71%	29%	06/17-14:00	32.5	22.7	31.7	40.3	124%	64%	51%	81%	56%	79%
July	12	15,790	71%	29%	07/08-9:00	34.7	33.2	33.2	45.4	131%	61%	47%	76%	73%	73%
August	12	16,465	71%	29%	08/04-10:00	35.9	18.4	34.1	45.6	127%	62%	49%	79%	40%	75%
September	12	17,770	71%	29%	09/10-9:00	39.4	24.7	39.0	51.2	130%	63%	48%	77%	48%	76%
October	12	15,105	71%	29%	10/24-12:00	36.1	19.3	31.8	44.7	124%	56%	45%	81%	43%	71%
November	12	14,880	71%	29%	11/08-11:00	37.3	19.5	25.4	45.8	123%	55%	45%	81%	43%	55%
December	12	14,500	70%	30%	12/28-10:00	34.1	21.6	30.4	45.8	134%	57%	43%	74%	47%	66%
Average	12	15,047	71%	29%		35.0	22.0	30.8	43.9	125%	59%	47%	80%	50%	70%

Notes:

- 1) kW Demand is 60-minute integrated demand.
- 2) On Peak is from 7 am to 9 pm daily.
- 3) Maximum non-coincident kW demand = individual maximum demands.
- 4) Diversity factor = ratio of the weighted sum of the maximum demand of each member of the class to the maximum coincident demand of the entire class.
- 5) Load factor = ratio (as a %) of kWh / (peak demand x number of hours).
- 6) Coincidence factor = ratio (as a %) of the maximum demand of the class to the weighted sum of the maximum demand of each member of the class.

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Table 7.2
 HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule J: General Service Demand
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	310	528	415	388	565	457	570	483	493	392	384	432
2	319	538	402	386	481	443	449	474	489	412	391	420
3	304	538	388	383	419	419	423	430	488	415	388	419
4	306	508	390	390	417	417	427	429	485	408	374	430
5	326	459	380	399	424	430	421	445	477	410	373	495
6	384	515	453	453	450	442	460	454	514	429	394	563
7	560	660	650	672	588	647	669	596	663	572	539	755
8	632	765	1,044	954	928	778	950	994	1,054	804	819	1,123
9	737	938	1,198	997	1,083	924	1,144	1,153	1,299	965	1,037	1,174
10	922	1,099	1,200	1,025	1,188	868	1,102	1,185	1,141	1,011	1,133	1,194
11	965	1,091	1,181	1,057	1,209	970	1,094	1,128	1,206	1,084	1,156	1,174
12	954	1,105	1,055	1,076	1,156	1,041	1,077	1,048	1,199	1,228	1,068	1,116
13	851	1,114	1,055	900	1,026	1,038	1,079	1,059	1,166	1,135	972	1,007
14	841	1,154	1,076	890	1,062	1,073	1,036	1,054	1,193	1,010	1,010	938
15	856	982	954	912	998	952	898	956	1,049	919	889	956
16	798	974	897	870	1,001	894	887	944	995	914	864	967
17	748	990	919	850	895	890	908	908	1,035	859	853	974
18	687	879	818	774	812	802	862	866	933	811	751	931
19	533	705	682	629	690	685	697	729	807	680	581	757
20	440	744	793	534	638	596	593	661	705	567	483	676
21	391	706	761	496	566	531	541	708	619	503	465	613
22	380	656	712	468	539	502	509	653	612	482	434	634
23	347	614	710	448	618	482	489	554	671	476	425	554
24	339	591	677	428	637	464	462	488	622	489	385	614
Average	580	786	784	682	766	698	739	767	830	707	674	788

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Table 7.3

HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS

Schedule J: General Service Demand
60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	9.4	16.0	12.6	11.7	17.1	13.9	17.3	14.6	14.9	11.5	12.4	12.4
2	9.7	16.3	12.2	11.7	14.6	13.4	13.6	14.4	14.8	12.1	12.6	12.0
3	9.2	16.3	11.8	11.6	12.7	12.7	12.8	13.0	14.8	12.2	12.5	12.0
4	9.3	15.4	11.8	11.8	12.6	12.6	12.9	13.0	14.7	12.0	12.1	12.3
5	9.9	13.9	11.5	12.1	12.9	13.0	12.8	13.5	14.5	12.1	12.0	14.1
6	11.6	15.6	13.7	13.7	13.7	13.4	13.9	13.8	15.6	12.6	12.7	16.1
7	17.0	20.0	19.7	20.4	17.8	19.6	20.3	18.1	20.1	16.8	17.4	21.6
8	19.2	23.2	31.6	28.9	28.1	23.6	28.8	30.1	31.9	23.6	26.4	32.1
9	22.3	28.4	36.3	30.2	32.8	28.0	34.7	34.9	39.4	28.4	33.4	33.5
10	27.9	33.3	36.4	31.1	36.0	26.3	33.4	35.9	34.6	29.7	36.5	34.1
11	29.2	33.1	35.8	32.0	36.6	29.4	33.1	34.2	36.5	31.9	37.3	33.5
12	28.9	33.5	32.0	32.6	35.0	31.6	32.6	31.8	36.3	36.1	34.5	31.9
13	25.8	33.8	32.0	27.3	31.1	31.5	32.7	32.1	35.3	33.4	31.4	28.8
14	25.5	35.0	32.6	27.0	32.2	32.5	31.4	31.9	36.1	29.7	32.6	26.8
15	25.9	29.8	28.9	27.6	30.2	28.8	27.2	29.0	31.8	27.0	28.7	27.3
16	24.2	29.5	27.2	26.3	30.3	27.1	26.9	28.6	30.1	26.9	27.9	27.6
17	22.7	30.0	27.8	25.8	27.1	27.0	27.5	27.5	31.4	25.3	27.5	27.8
18	20.8	26.6	24.8	23.5	24.6	24.3	26.1	26.2	28.3	23.8	24.2	26.6
19	16.1	21.4	20.7	19.1	20.9	20.8	21.1	22.1	24.5	20.0	18.7	21.6
20	13.3	22.5	24.0	16.2	19.3	18.1	18.0	20.0	21.4	16.7	15.6	19.3
21	11.9	21.4	23.1	15.0	17.2	16.1	16.4	21.4	18.7	14.8	15.0	17.5
22	11.5	19.9	21.6	14.2	16.3	15.2	15.4	19.8	18.6	14.2	14.0	18.1
23	10.5	18.6	21.5	13.6	18.7	14.6	14.8	16.8	20.3	14.0	13.7	15.8
24	10.3	17.9	20.5	13.0	19.3	14.1	14.0	14.8	18.8	14.4	12.4	17.5
Average	17.6	23.8	23.7	20.7	23.2	21.1	22.4	23.2	25.1	20.8	21.7	22.5

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Table 7.4
CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS
 Schedule J: General Service Demand
 60-Minute Integrated kW Demand at the Gross Level, Normalized

Month	SYSTEM PEAK		DAYTIME PEAK	
	CLASS kW	% OF SYSTEM	CLASS kW	% OF SYSTEM
January	673	14%	806	19%
February	939	20%	1,362	31%
March	820	18%	1,380	31%
April	928	20%	1,185	27%
May	812	17%	1,362	30%
June	876	18%	1,265	28%
July	828	17%	1,479	31%
August	760	16%	1,380	30%
September	1,092	22%	1,443	31%
October	811	17%	1,197	26%
November	826	17%	1,033	22%
December	987	19%	1,299	27%
Average	863	18%	1,266	28%

Note: The annual instantaneous system peak of 5.2 MW occurred on December 27, 2005 @ 18:35

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Table 7.5
CLASS kWh LOAD BY TIME-OF-USE AT THE SALES LEVEL
 Schedule J: General Service Demand

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	42,005	247,851	110,979	400,835	10%	62%	28%	100%
February	51,030	271,332	126,570	448,932	11%	60%	28%	100%
March	58,366	296,019	142,642	497,027	12%	60%	29%	100%
April	54,031	283,897	132,337	470,265	11%	60%	28%	100%
May	58,842	317,231	155,958	532,032	11%	60%	29%	100%
June	58,251	289,667	142,874	490,792	12%	59%	29%	100%
July	55,266	312,597	153,200	521,063	11%	60%	29%	100%
August	61,674	324,023	157,656	543,353	11%	60%	29%	100%
September	66,213	349,036	171,175	586,424	11%	60%	29%	100%
October	55,622	310,777	147,179	513,577	11%	61%	29%	100%
November	49,820	275,918	135,552	461,290	11%	60%	29%	100%
December	57,464	296,654	153,375	507,493	11%	58%	30%	100%
Total	668,584	3,575,002	1,729,497	5,973,083				
Percent	11%	60%	29%	100%				

Note: Normalized sales from sample estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday
7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

Table 7.6
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule J: General Service Demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	310	408	424	402	493	421	475	496	564	507	491	492
2	332	428	452	412	473	409	457	501	555	500	474	486
3	329	444	447	415	484	429	477	486	543	471	472	474
4	357	475	465	441	503	449	494	497	549	487	469	474
5	400	520	514	480	539	481	521	536	584	500	514	540
6	512	626	616	575	614	534	575	611	668	555	628	652
7	653	776	757	719	798	707	749	788	860	730	768	780
8	723	861	903	891	1,004	927	949	973	1,042	951	887	886
9	772	928	958	930	1,020	979	1,057	1,071	1,119	1,031	940	928
10	844	1,003	1,051	1,002	1,109	1,014	1,144	1,136	1,169	1,089	1,032	959
11	852	1,037	1,067	1,014	1,135	1,054	1,149	1,131	1,207	1,087	1,030	984
12	864	1,031	1,048	1,009	1,131	1,030	1,146	1,117	1,213	1,080	1,012	976
13	847	1,011	1,002	1,005	1,100	1,002	1,073	1,097	1,142	1,044	1,006	981
14	849	1,018	995	997	1,092	988	1,118	1,085	1,132	1,042	984	993
15	858	974	979	1,008	1,035	950	1,042	1,054	1,119	1,002	948	973
16	823	972	960	954	1,002	919	984	1,011	1,061	991	937	976
17	783	973	924	903	935	876	951	1,005	1,074	991	945	1,010
18	764	870	841	862	914	860	930	966	1,078	953	939	999
19	586	725	716	722	788	753	784	843	937	745	715	762
20	438	606	624	600	666	677	684	689	738	590	590	663
21	409	555	581	531	636	599	612	646	671	550	571	632
22	359	489	542	497	583	568	605	639	666	545	543	572
23	318	435	479	429	544	510	521	594	615	535	497	524
24	328	441	477	440	544	475	501	561	599	509	485	516
Average	596	734	742	718	798	734	792	814	871	770	745	760

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Table 7.7
 AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
 Schedule J: General Service Demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	311	410	420	396	494	442	472	462	554	475	426	455
2	311	408	419	388	473	419	439	452	547	457	415	441
3	304	397	404	380	452	409	430	438	527	434	406	428
4	320	408	399	388	446	404	430	431	515	434	402	423
5	329	409	400	386	440	406	423	427	509	425	409	446
6	394	475	449	423	458	425	437	457	539	447	492	539
7	544	633	608	588	624	596	618	629	725	599	623	689
8	637	788	802	801	882	831	819	850	989	876	767	788
9	720	884	894	879	961	914	917	973	1,094	973	844	860
10	754	919	926	909	1,016	926	949	1,010	1,115	985	873	901
11	763	946	941	923	1,026	951	973	1,027	1,137	983	894	922
12	773	945	921	913	1,011	935	982	1,028	1,139	991	877	921
13	759	918	904	899	982	923	971	1,011	1,114	951	880	922
14	792	941	915	917	983	939	977	1,012	1,124	964	887	921
15	796	939	902	910	968	910	929	974	1,098	936	868	917
16	773	924	889	876	929	880	900	957	1,070	917	854	916
17	770	921	884	866	878	846	885	937	1,050	894	846	897
18	683	832	797	801	821	792	829	871	991	845	794	847
19	547	671	632	645	694	686	696	717	826	693	637	690
20	462	630	642	588	664	674	630	615	694	578	546	619
21	408	553	582	539	623	623	608	600	643	534	514	581
22	372	511	536	503	582	581	594	606	633	534	495	545
23	351	477	506	471	579	558	569	586	621	542	469	508
24	335	453	475	438	551	507	512	530	583	490	432	486
Average	550	683	677	659	731	691	708	733	826	706	652	694

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Table 7.8
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule J: General Service Demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	320	392	443	405	443	462	456	529	551	436	454	492
2	339	440	433	410	425	416	476	551	537	441	464	486
3	325	426	475	415	461	428	479	536	535	422	443	482
4	370	454	495	441	487	436	494	533	521	428	450	479
5	416	496	523	450	508	470	507	562	535	446	481	524
6	499	576	607	521	559	515	562	615	586	483	562	628
7	633	713	723	678	678	664	724	774	816	652	728	783
8	687	839	896	816	895	808	873	979	1,010	869	824	820
9	729	892	956	804	935	854	943	979	1,014	915	797	837
10	731	897	1,006	877	988	877	1,001	1,021	1,054	920	881	858
11	774	878	1,013	866	1,012	963	1,007	1,061	1,066	925	899	887
12	763	884	1,025	885	1,015	929	971	1,052	1,117	913	870	879
13	784	909	928	890	964	910	953	1,008	1,078	929	882	885
14	779	938	903	897	944	910	958	994	1,019	947	894	877
15	772	915	899	884	937	863	994	997	997	925	874	913
16	741	963	859	858	937	818	950	984	972	895	889	886
17	746	936	851	894	858	865	939	959	1,007	935	909	901
18	714	882	814	840	853	852	900	944	979	897	904	944
19	564	737	694	721	758	742	768	822	870	750	707	744
20	449	636	623	679	680	665	693	688	712	585	614	674
21	414	529	581	614	658	599	644	630	683	537	546	643
22	365	497	526	610	611	558	619	623	645	547	507	579
23	332	461	463	511	548	514	538	571	610	534	479	551
24	337	447	452	469	501	489	508	521	581	491	466	511
Average	566	697	716	685	736	692	748	789	812	701	689	719

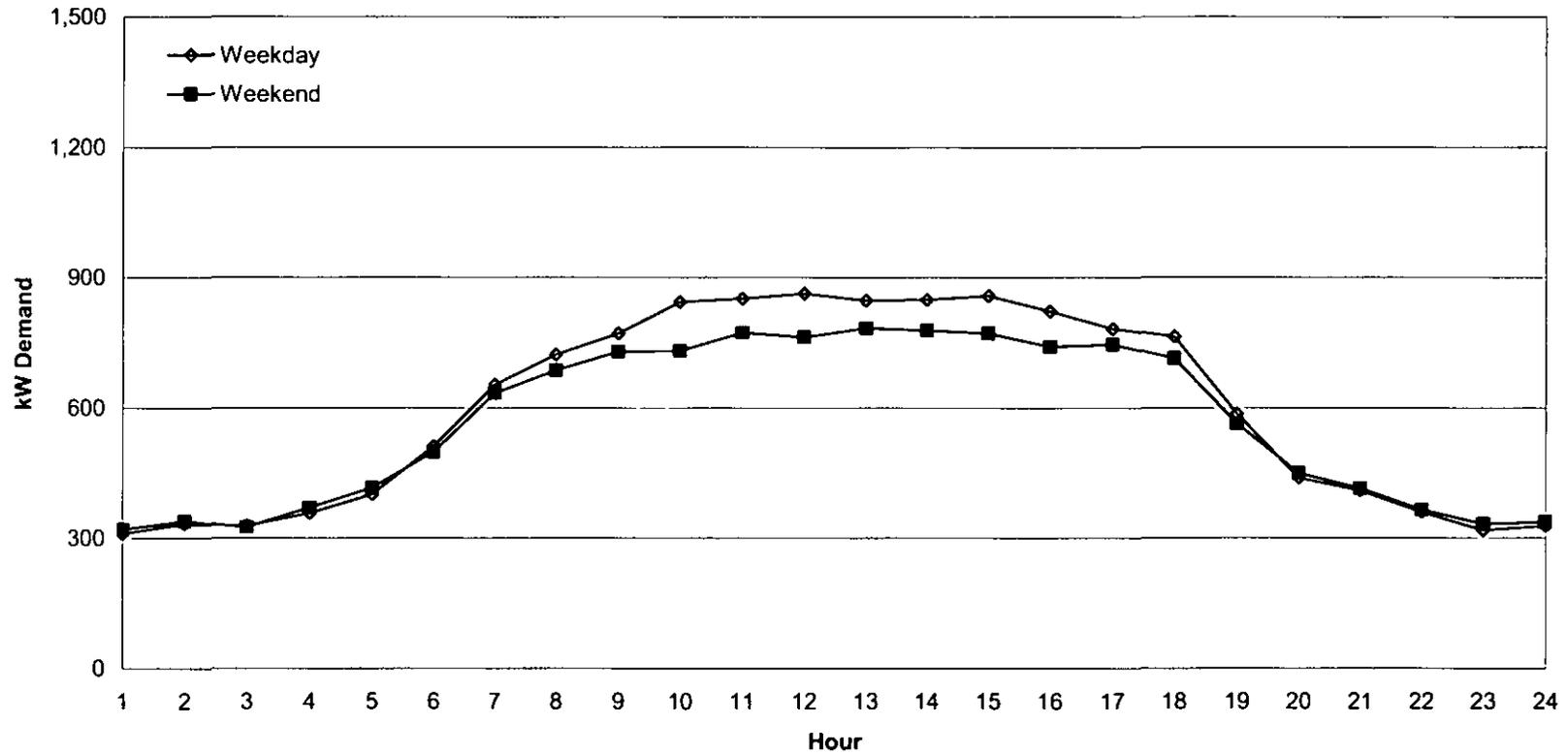
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Table 7.9
 AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule J: General Service Demand
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	315	398	438	410	463	483	465	513	550	422	409	457
2	314	398	440	394	440	448	457	512	534	414	403	445
3	312	390	427	382	431	426	452	500	512	405	387	432
4	319	396	416	390	435	416	442	475	491	403	394	426
5	333	398	405	382	435	414	431	468	478	401	400	435
6	402	450	446	410	446	425	442	490	502	423	480	537
7	523	602	588	571	576	578	601	631	696	573	613	675
8	615	745	785	742	804	746	769	861	928	767	728	722
9	660	791	872	870	870	814	855	933	1,021	868	768	790
10	670	806	891	795	890	846	885	955	1,028	879	792	824
11	685	819	921	799	902	867	884	980	1,036	862	814	825
12	695	818	875	813	909	871	896	963	1,056	866	804	815
13	701	822	846	834	887	868	884	948	1,054	860	814	841
14	718	855	839	842	877	877	882	945	1,071	899	818	853
15	708	871	820	829	881	836	882	908	1,027	873	814	859
16	691	873	809	831	862	818	874	897	997	852	810	845
17	692	877	809	837	844	820	870	908	1,005	854	809	837
18	630	817	748	786	800	772	839	858	943	814	762	792
19	515	650	604	642	681	662	710	719	792	683	624	656
20	445	611	585	645	660	651	651	621	677	583	548	597
21	403	532	537	616	623	611	624	601	643	533	508	581
22	375	481	498	585	580	567	600	594	636	521	467	539
23	360	454	471	532	563	553	574	571	625	530	451	510
24	340	427	436	472	516	494	510	500	574	469	416	468
Average	517	637	646	638	682	661	687	723	787	656	618	657

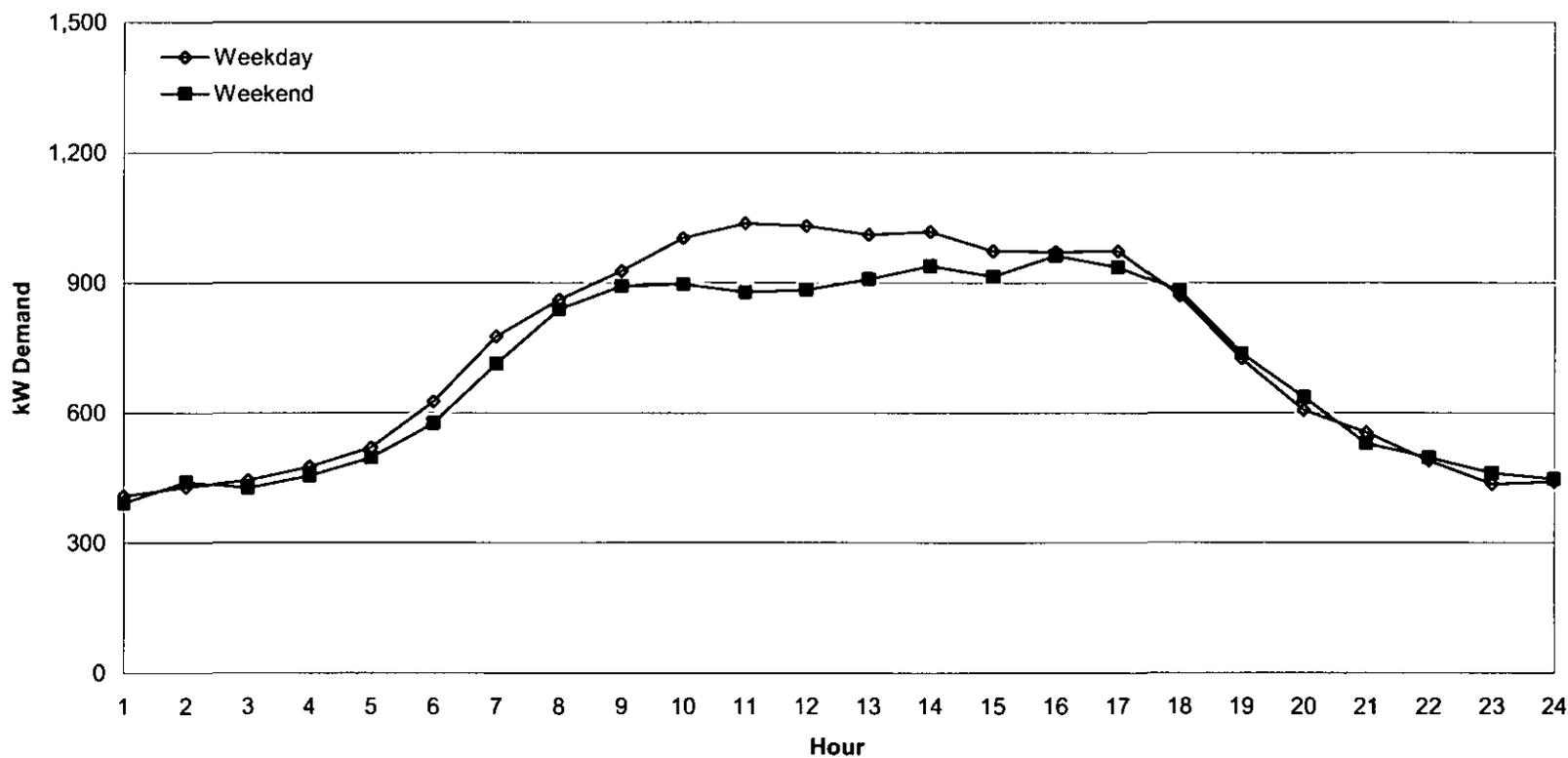
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Exhibit 7.1 a
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 January 2005



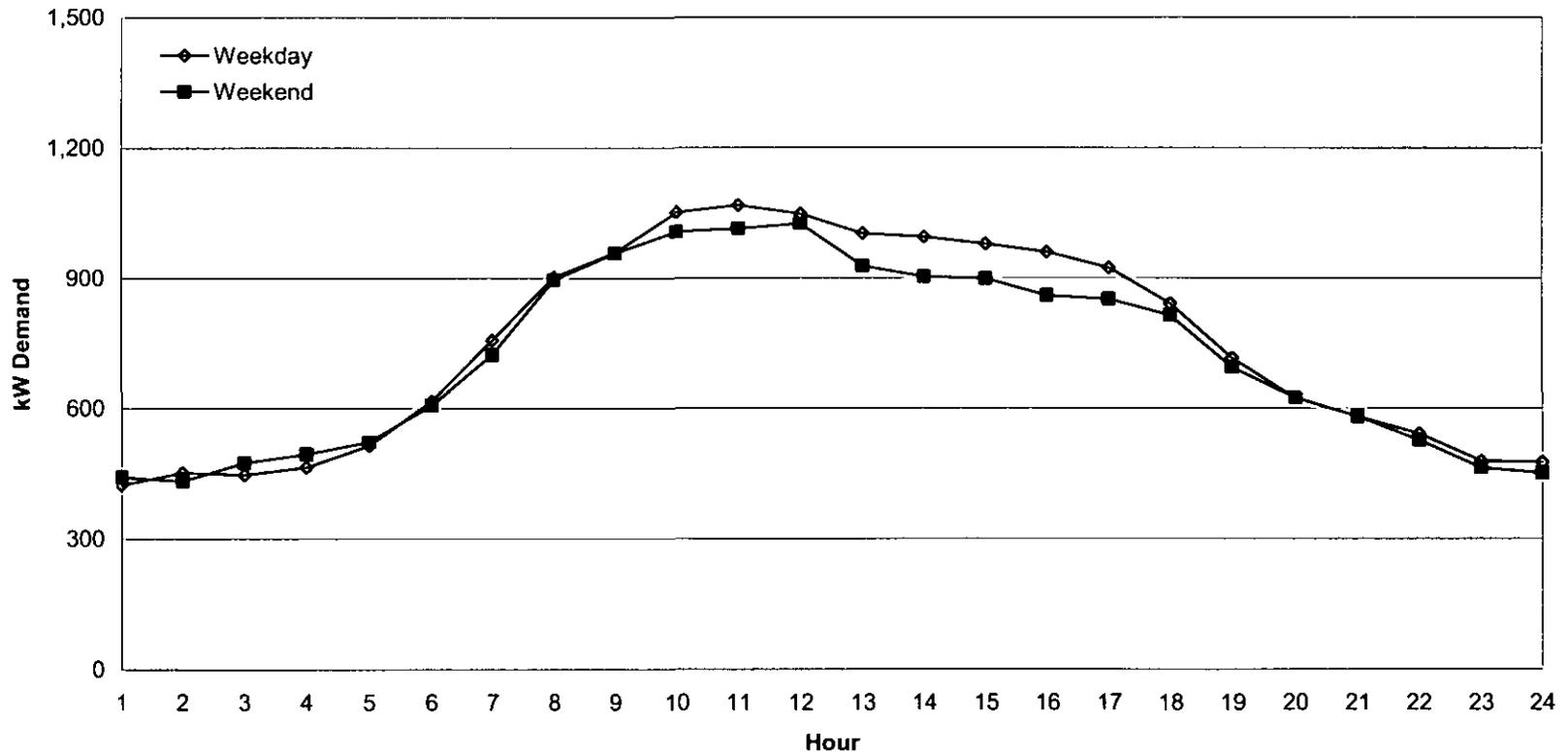
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Exhibit 7.1 b
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 February 2005



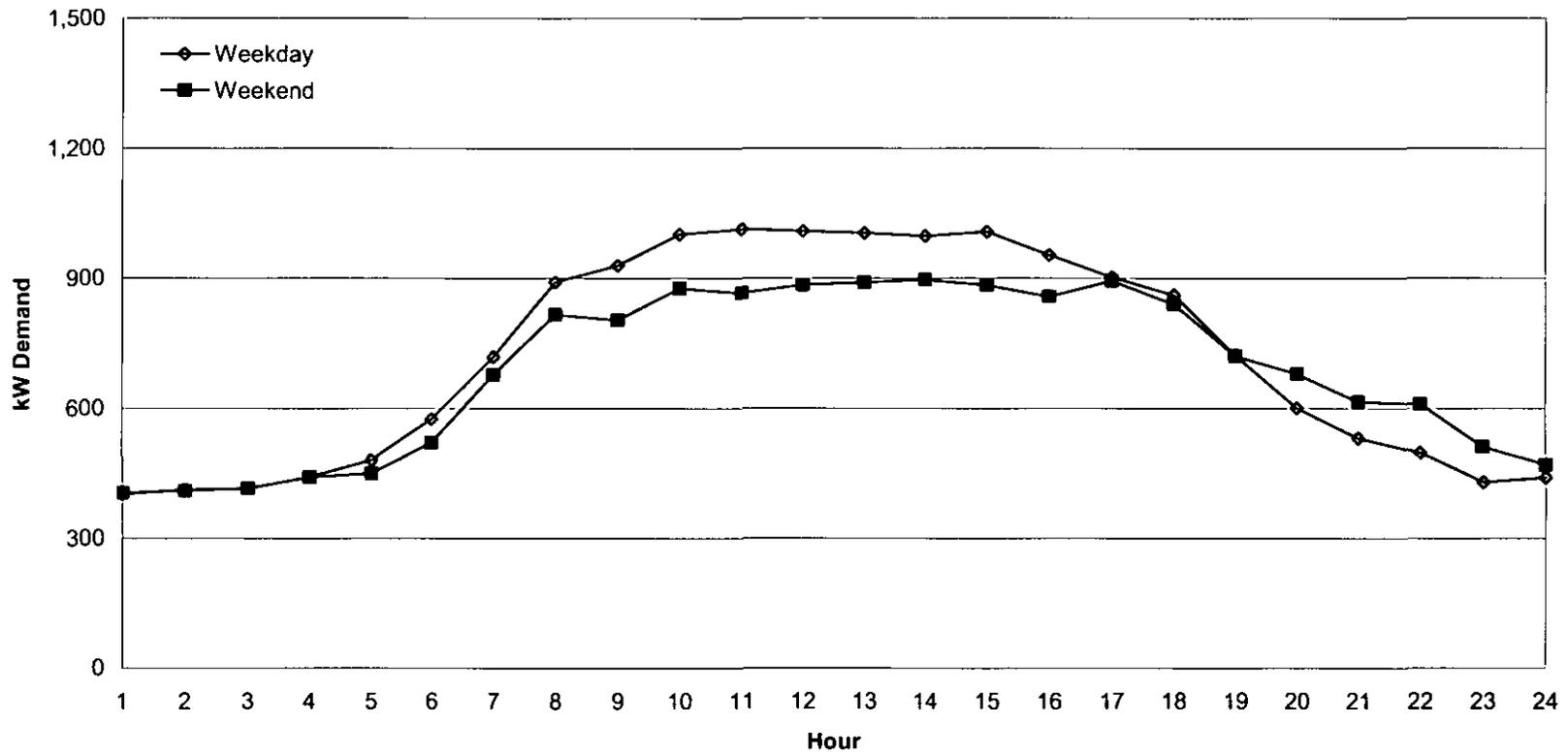
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Exhibit 7.1 c
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 March 2005



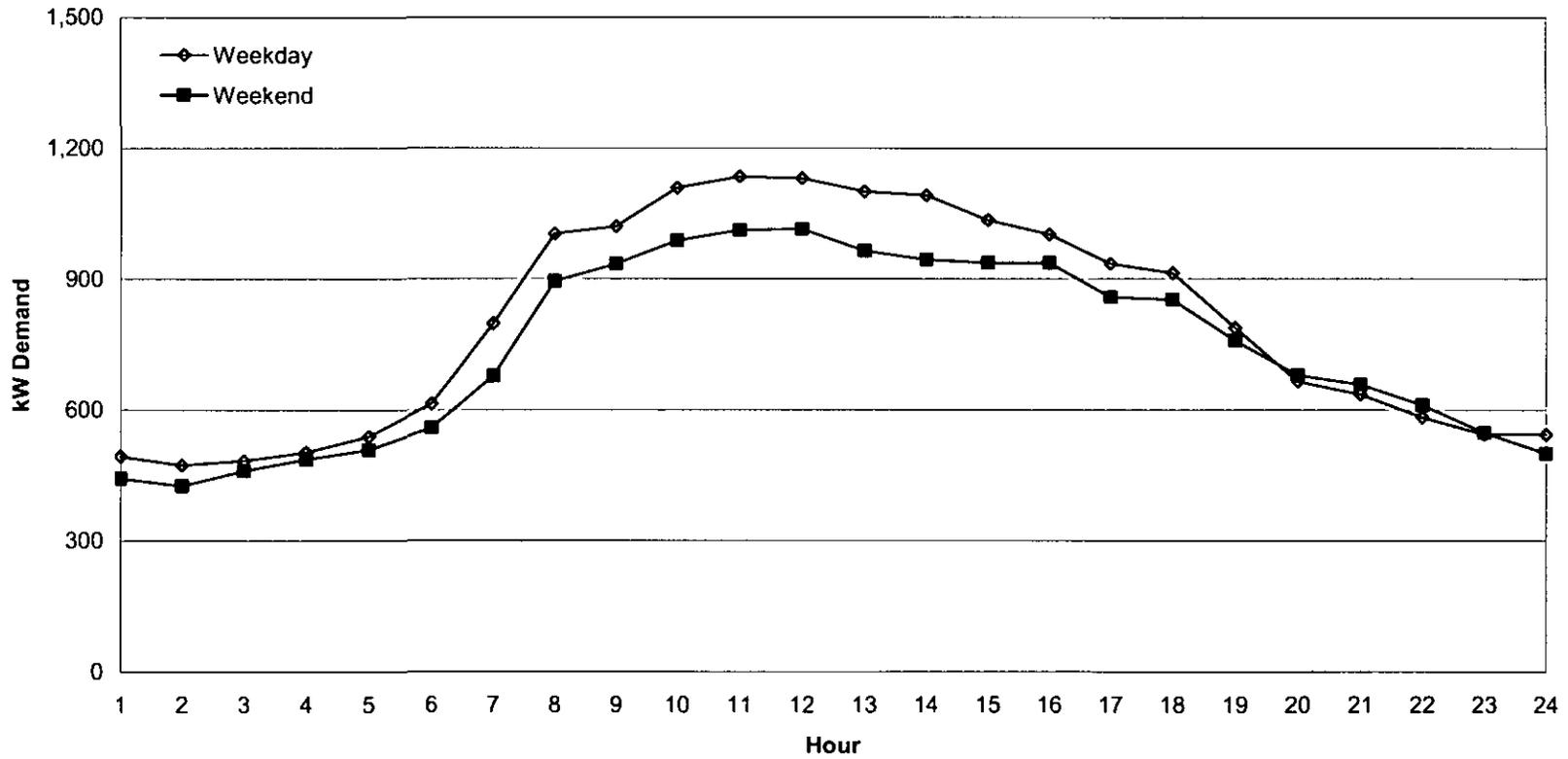
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Exhibit 7.1 d
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 April 2005



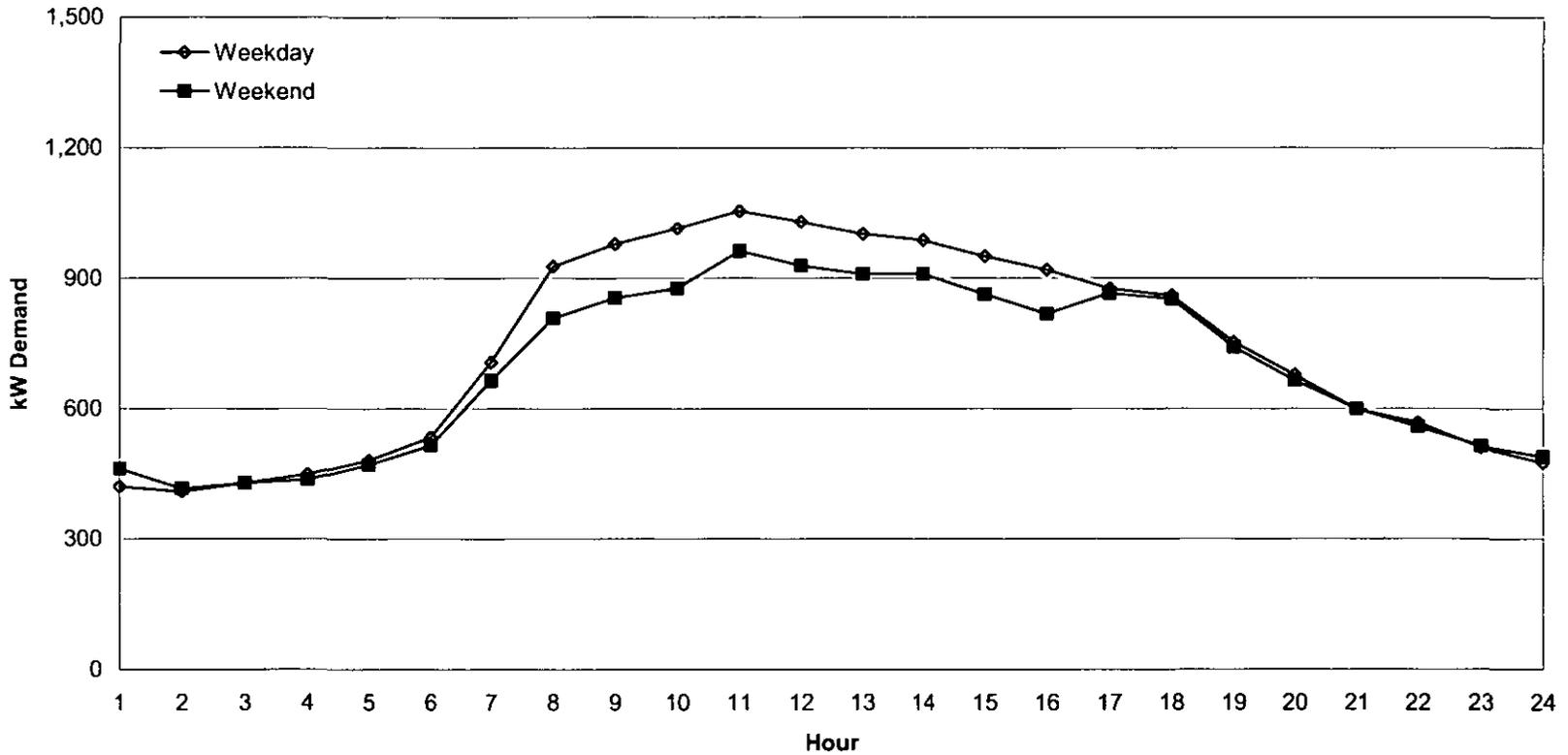
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Exhibit 7.1 e
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 May 2005



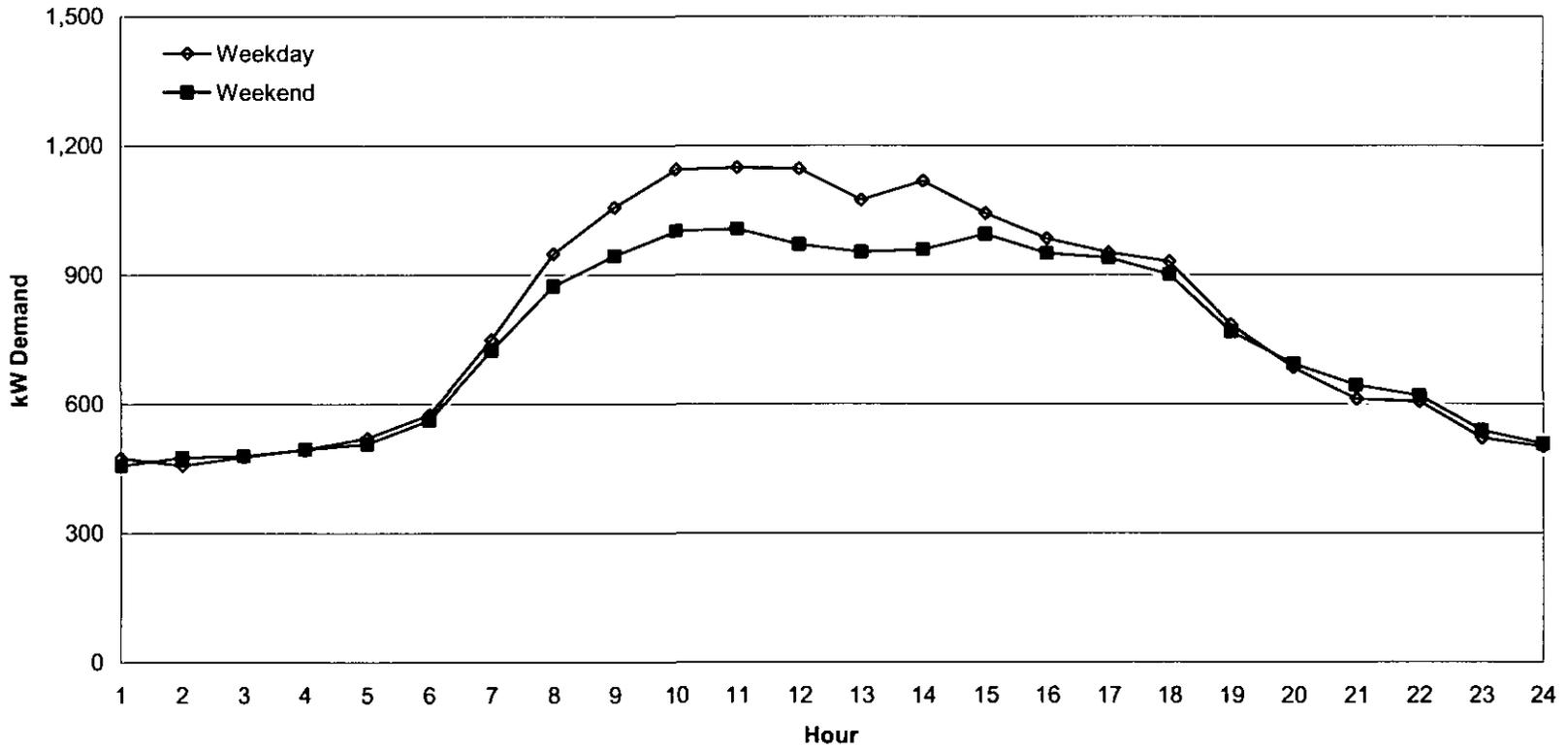
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Exhibit 7.1 f
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 June 2005



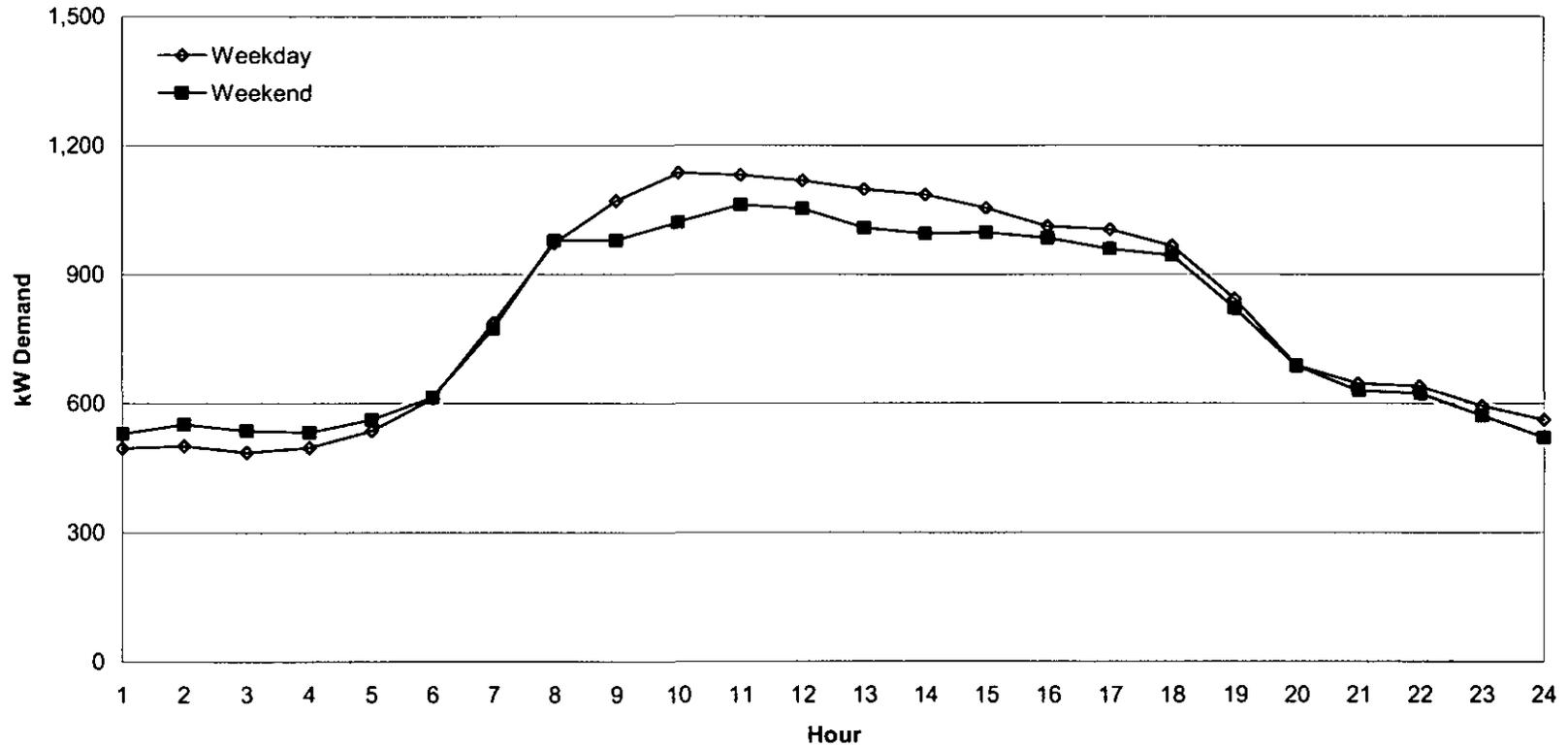
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Exhibit 7.1 g
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 July 2005



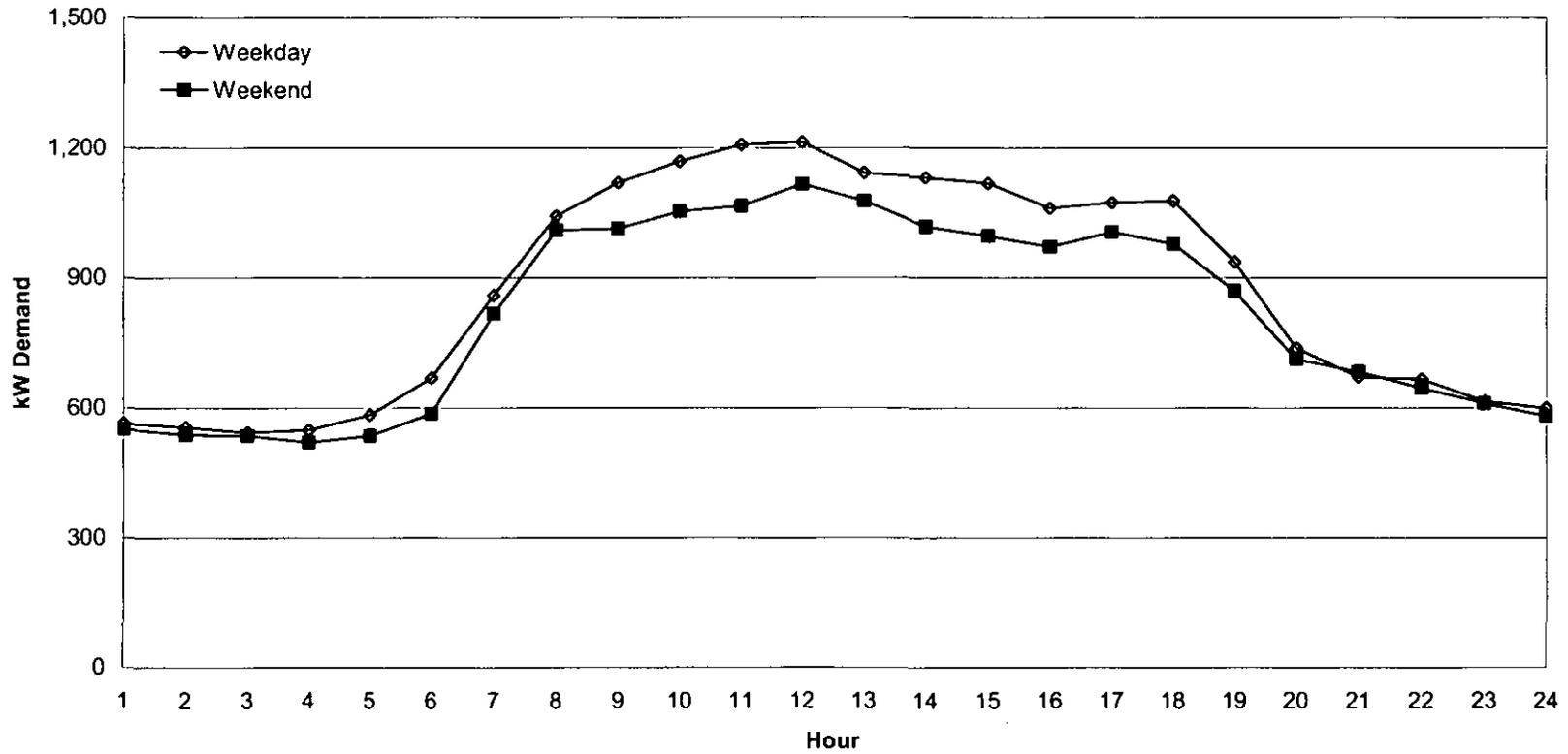
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Exhibit 7.1 h
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 August 2005



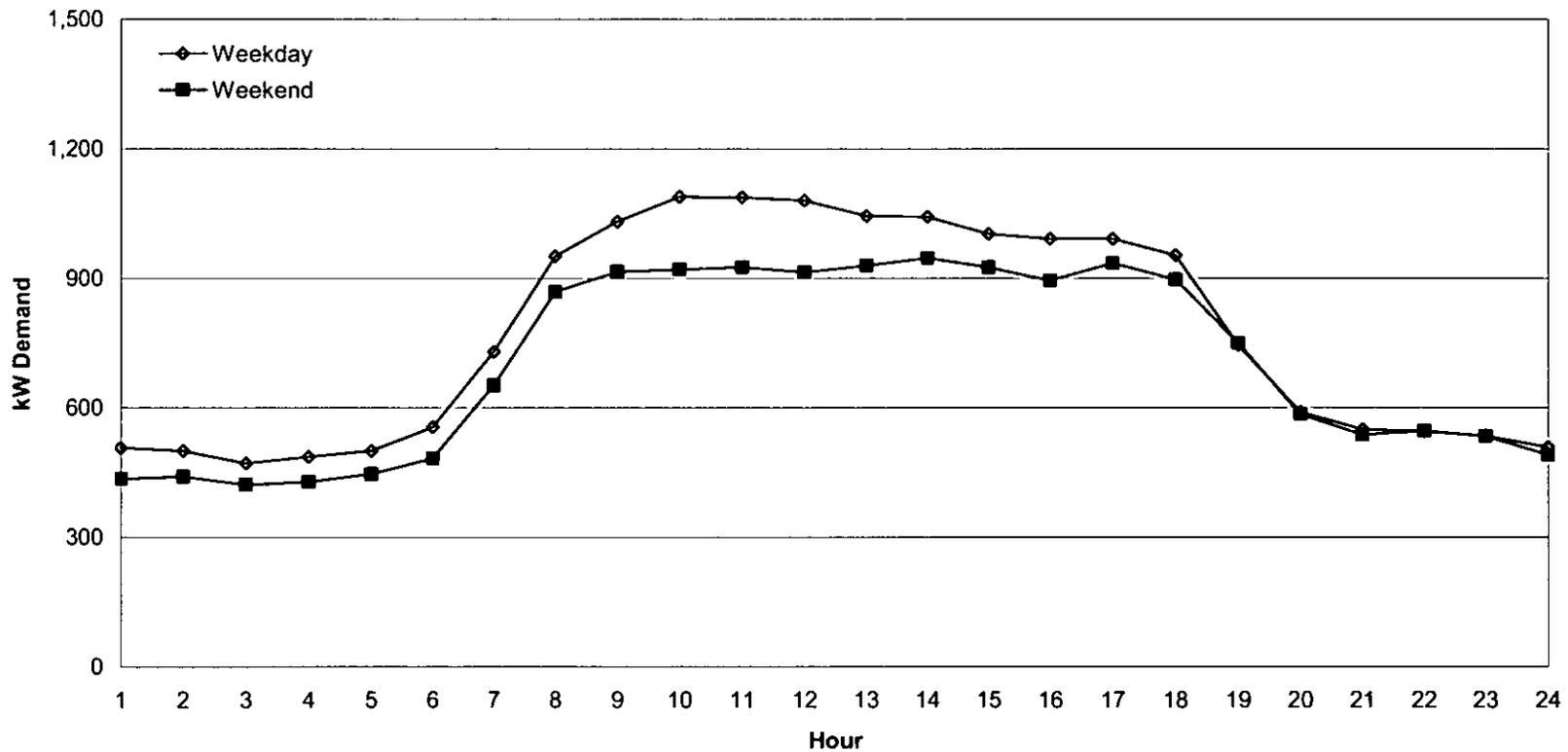
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Exhibit 7.1 i
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 September 2005



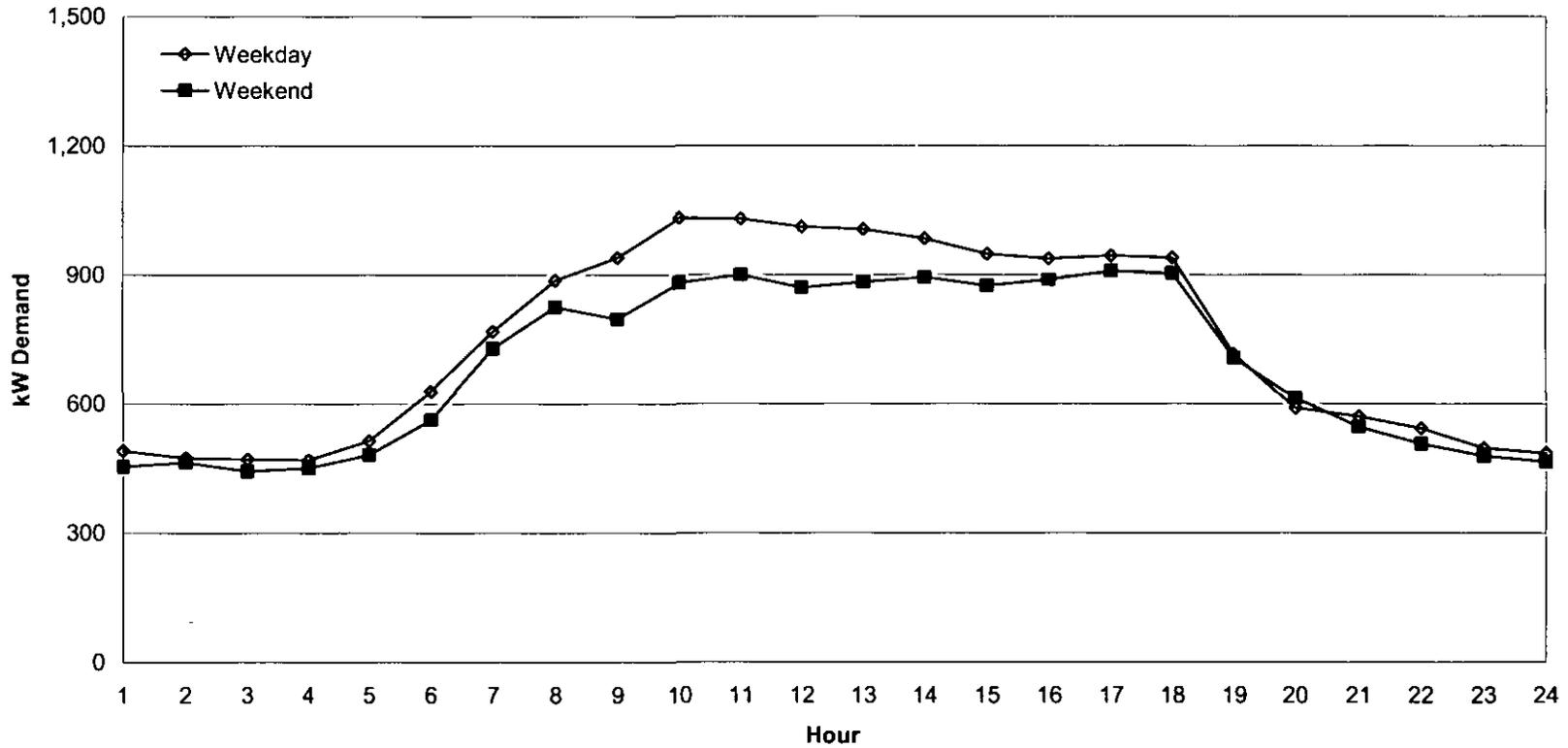
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Exhibit 7.1 j
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 October 2005



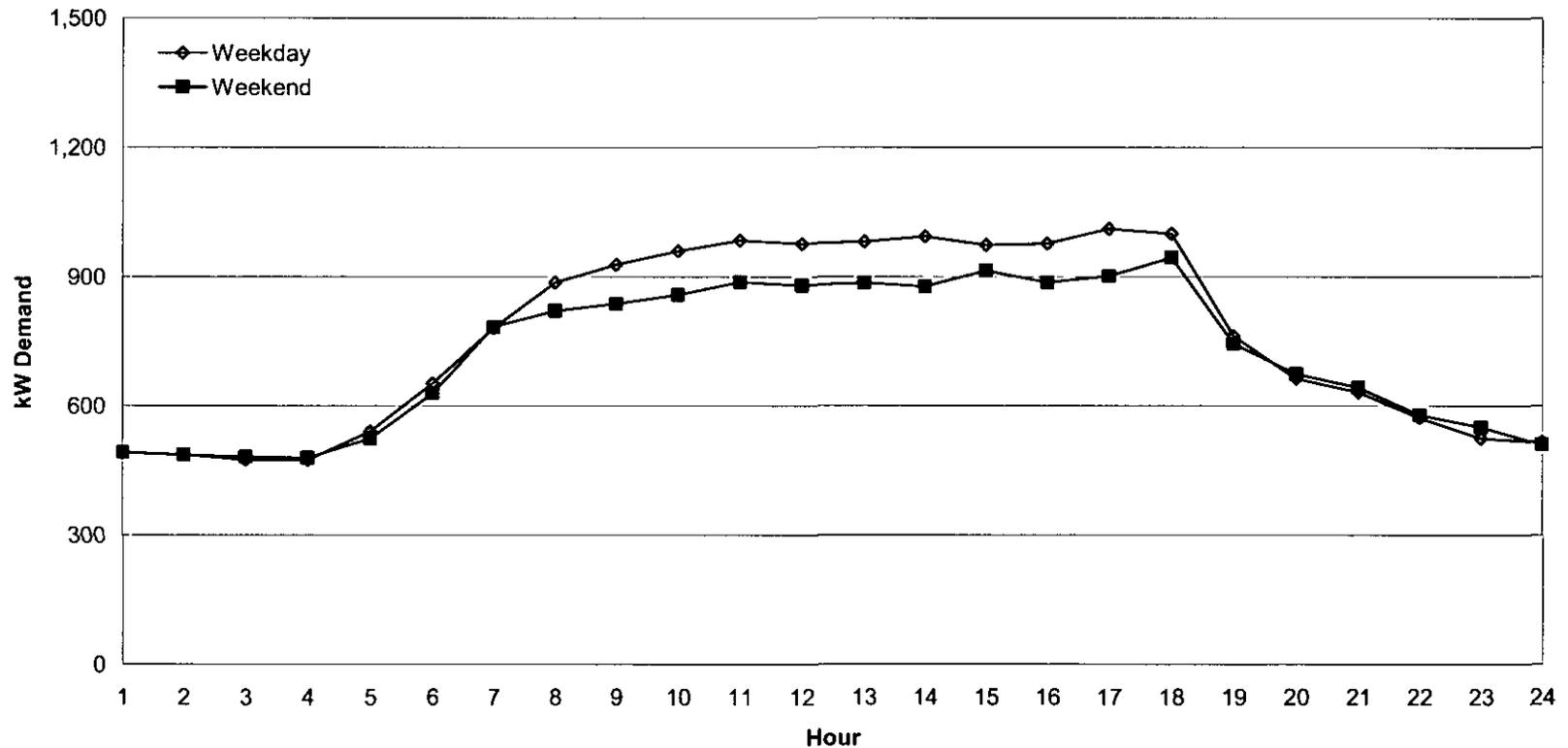
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Exhibit 7.1 k
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 November 2005



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Exhibit 7.1 I
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule J: General Service Demand
 December 2005



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8. SCHEDULE H: COMMERCIAL COOKING, HEATING, AIR CONDITIONING AND REFRIGERATION SERVICE

During 2005 Schedule H contained just four customers, all of whom were in the sample. They accounted for 540 MWh of sales in 2005, or 2% of the total.

Schedule H's load data revealed these patterns and characteristics:

1. During 2005 Schedule H's average monthly consumption ranged from a low of 7,970 kWh in February to a high of 12,323 kWh in June. The weighted average monthly consumption for the four customers in the sample was 11,302 kWh, which was 0.5% above the average for the population, 11,251 kWh.¹
2. Table 8.1 summarizes the monthly Schedule H load statistics per customer normalized to the sales level. Table 8.1 also shows the non-coincident and coincident demands of the residential sample.

The non-coincident demand is a customer's highest demand during a calendar month. The class non-coincident demand is the total non-coincident demand of all the customers in the class.

The coincident demand of a customer is the demand which a customer puts on the system at a specified time, either the system peak, daytime peak or class peak. The class coincident demand is the total demand of all customers in the class at the specified time.

The diversity factor represents the extent to which the peak demand of each individual customer in the class occurs simultaneously. It is the ratio of the maximum non-coincident demand per customer to the coincident demand per customer at the class peak, expressed as a percent.

The Schedule H sample's average diversity factor was 110%. The average non-coincident demand per customer was 22.3 kW; the average coincident demand per customer at the class peak was 20.2 kW. The highest coincident demand occurred in September; the highest non-coincident demand occurred in June. The maximum coincident demand was fairly constant throughout the year.

3. The sample's monthly load factor ranged from 72% to 78% during 2005, with an average monthly load factor of 76%.

¹ The reason for the difference in average monthly kWh is that the population average is based on official sales including unbilled sales, and unbilled sales are estimated.

4. Schedule H's monthly peaks occurred between 11 AM and 5 PM. Its hourly loads on the day of the class peak in each month are reported in Tables 8.2 (total class) and 8.3 (average per customer).
5. Table 8.4 summarizes the class contribution to the system and day peaks normalized to the gross generation. To extrapolate the demand from the sales level to the gross generation, the sample-based estimates for each class of sales at the peak hour were added, and the sum was normalized to the actual system or daytime peak for each month.

Schedule H's average contribution to both the monthly system peaks and the daytime peaks was 2%.

Its contribution to the monthly system peaks ranged in amount from 0.06 MW in May to 0.09 MW in July and September; in percentage terms, Schedule H contributed 1% during May and November and 2% during the other months of 2005.

The contribution to the daytime peak ranged in amount from 0.08 MW in January, November and December to 0.10 MW in June; in percentage terms it was 2% throughout the year.

6. As shown in Table 8.5, 63% of the total Schedule H kWh consumption occurred during the system on-peak period (7 AM to 9 PM daily), with 12% occurring during the system priority peak period (5 PM to 9 PM, Monday through Friday).
7. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 8.6 through 8.9. The gross weekend and weekday loads are graphed in Exhibits 8.1a through 8.11.

Schedule H's weekday and weekend load profiles show a daytime peak between 11 AM and noon, followed by a dip between noon and 1 PM, and a return to the mid-day level until 6 PM. Schedule H's weekday loads were 2% higher than its weekend loads.

Table 8.1

SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service

Average per customer															
Month	Sample Size	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	4	11,092	63%	37%	01/21-16:00	19.4	16.3	14.6	22.1	113%	77%	68%	88%	74%	66%
February	4	9,790	63%	37%	02/11-16:00	19.1	15.4	17.7	22.3	117%	76%	65%	86%	69%	79%
March	4	10,880	63%	37%	03/04-17:00	20.2	15.0	18.6	22.7	112%	72%	64%	89%	66%	82%
April	4	10,396	64%	36%	04/30-17:00	18.8	15.5	14.9	21.0	112%	77%	69%	90%	74%	71%
May	4	11,841	63%	37%	05/05-16:00	20.9	14.7	18.1	22.8	109%	76%	70%	92%	65%	79%
June	4	12,323	64%	36%	06/24-16:00	22.0	17.9	21.1	24.5	112%	78%	70%	90%	73%	86%
July	4	11,184	63%	37%	07/01-17:00	19.4	17.3	17.3	21.2	109%	78%	71%	91%	82%	82%
August	4	12,075	64%	36%	08/11-14:00	20.9	16.5	18.2	23.0	110%	78%	71%	91%	72%	79%
September	4	11,887	63%	37%	09/17-12:00	21.5	17.4	20.4	23.1	108%	77%	71%	93%	75%	88%
October	4	11,737	64%	36%	10/13-14:00	20.4	15.0	19.8	22.4	110%	77%	70%	91%	67%	88%
November	4	10,870	63%	37%	11/10-12:00	20.0	13.1	14.5	21.4	107%	75%	71%	93%	61%	68%
December	4	10,936	63%	37%	12/22-12:00	19.8	16.1	17.3	21.0	106%	74%	70%	94%	77%	83%
Average	4	11,251	63%	37%		20.2	15.9	17.7	22.3	110%	76%	69%	91%	71%	79%

Notes:

- 1) kW Demand is 60-minute integrated demand.
- 2) On Peak is from 7 am to 9 pm daily.
- 3) Maximum non-coincident kW demand = \sum individual maximum demands.
- 4) Diversity factor = ratio of the weighted sum of the maximum demand of each member of the class to the maximum coincident demand of the entire class.
- 5) Load factor = ratio (as a %) of kWh / (peak demand x number of hours).
- 6) Coincidence factor = ratio (as a %) of the maximum demand of the class to the weighted sum of the maximum demand of each member of the class.

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Table 8.2

HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	52	52	49	49	54	57	53	56	56	53	52	48
2	56	56	50	52	57	62	56	60	60	55	53	53
3	55	53	50	51	56	60	54	56	57	54	53	50
4	53	53	48	47	56	56	53	55	58	56	53	52
5	57	49	50	51	62	61	53	61	61	56	52	53
6	52	47	47	48	55	60	51	55	55	53	51	50
7	58	56	49	46	56	60	51	56	56	54	58	56
8	61	58	57	54	64	70	61	69	66	65	60	59
9	64	61	58	58	68	74	61	71	67	68	64	62
10	67	66	64	64	71	77	65	73	76	70	69	68
11	71	70	70	68	81	84	72	80	81	75	76	74
12	71	67	68	69	80	80	75	80	86	73	80	79
13	74	70	67	68	75	76	69	72	78	76	69	71
14	72	71	68	72	82	86	74	84	85	82	70	74
15	69	72	71	73	80	84	71	80	80	78	73	74
16	78	76	79	74	83	88	75	83	83	76	72	73
17	77	73	81	75	83	85	77	79	81	76	72	72
18	70	69	72	71	78	80	73	75	79	70	67	70
19	68	66	64	64	73	76	70	71	70	68	64	66
20	63	65	63	63	73	73	69	70	71	66	63	68
21	60	58	58	62	69	71	62	67	67	63	63	63
22	57	58	56	55	65	63	57	62	61	59	57	56
23	59	55	56	54	62	61	56	62	63	57	56	56
24	53	49	51	53	60	61	54	60	62	54	56	55
Average	63	61	60	60	69	71	63	68	69	65	63	63

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Table 8.3

HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS

Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	13.0	13.1	12.2	12.1	13.4	14.2	13.2	14.1	13.9	13.2	13.1	12.0
2	14.0	13.9	12.6	13.1	14.3	15.4	13.9	15.1	14.9	13.7	13.4	13.1
3	13.8	13.2	12.4	12.8	14.0	14.9	13.4	13.9	14.2	13.6	13.3	12.6
4	13.2	13.3	12.1	11.8	14.1	14.1	13.1	13.8	14.6	13.9	13.3	13.0
5	14.2	12.4	12.6	12.7	15.4	15.1	13.1	15.1	15.2	14.0	13.0	13.2
6	13.0	11.7	11.8	11.9	13.7	14.9	12.6	13.9	13.7	13.4	12.8	12.6
7	14.5	14.0	12.3	11.6	14.0	15.0	12.6	14.1	14.0	13.4	14.6	13.9
8	15.2	14.5	14.2	13.4	16.1	17.5	15.2	17.2	16.6	16.3	15.0	14.7
9	16.1	15.2	14.4	14.6	17.0	18.6	15.2	17.9	16.8	16.9	16.0	15.6
10	16.7	16.5	16.1	16.0	17.8	19.2	16.3	18.1	18.9	17.4	17.4	17.0
11	17.7	17.5	17.4	17.1	20.2	21.0	18.0	20.1	20.3	18.8	19.0	18.4
12	17.7	16.8	17.1	17.2	20.0	19.9	18.8	19.9	21.5	18.2	20.0	19.8
13	18.4	17.5	16.8	16.9	18.8	19.1	17.3	18.1	19.5	19.0	17.1	17.9
14	17.9	17.6	17.1	18.0	20.5	21.6	18.5	20.9	21.2	20.4	17.4	18.6
15	17.4	17.9	17.8	18.2	20.0	21.0	17.8	20.0	20.0	19.5	18.3	18.5
16	19.4	19.1	19.6	18.4	20.9	22.0	18.7	20.8	20.6	19.0	18.1	18.3
17	19.2	18.3	20.2	18.8	20.8	21.1	19.4	19.7	20.2	18.9	18.0	18.0
18	17.4	17.2	17.9	17.7	19.4	20.1	18.2	18.8	19.7	17.5	16.8	17.5
19	17.0	16.5	15.9	16.0	18.3	19.0	17.4	17.8	17.4	16.9	16.0	16.6
20	15.8	16.2	15.8	15.8	18.3	18.2	17.3	17.4	17.8	16.6	15.6	16.9
21	15.0	14.6	14.6	15.5	17.2	17.7	15.4	16.9	16.8	15.7	15.8	15.7
22	14.2	14.5	13.9	13.7	16.2	15.6	14.2	15.5	15.4	14.8	14.2	14.0
23	14.7	13.8	14.0	13.5	15.6	15.3	13.9	15.6	15.6	14.2	14.0	13.9
24	13.2	12.3	12.6	13.2	15.1	15.3	13.5	14.9	15.4	13.6	14.0	13.7
Average	15.8	15.3	15.1	15.0	17.1	17.7	15.7	17.1	17.3	16.2	15.7	15.6

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Table 8.4

CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS

Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
60-Minute Integrated kW Demand at the Gross Level, Normalized

Month	SYSTEM PEAK		DAYTIME PEAK	
	CLASS kW	% OF SYSTEM	CLASS kW	% OF SYSTEM
January	79	2%	77	2%
February	78	2%	87	2%
March	76	2%	97	2%
April	79	2%	81	2%
May	62	1%	90	2%
June	83	2%	102	2%
July	89	2%	93	2%
August	83	2%	89	2%
September	94	2%	92	2%
October	74	2%	88	2%
November	72	1%	76	2%
December	84	2%	85	2%
Average	79	2%	88	2%

Note: The annual instantaneous system peak of 5.2 MW occurred on December 27, 2005 @ 18:35

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Table 8.5

CLASS kWh LOAD BY TIME-OF-USE AT THE SALES LEVEL

Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	5,054	22,776	16,536	44,367	11%	51%	37%	100%
February	4,698	20,060	14,401	39,159	12%	51%	37%	100%
March	5,508	22,088	15,923	43,520	13%	51%	37%	100%
April	5,157	21,266	15,159	41,582	12%	51%	36%	100%
May	5,644	24,363	17,355	47,362	12%	51%	37%	100%
June	6,094	25,323	17,873	49,290	12%	51%	36%	100%
July	5,053	23,302	16,381	44,736	11%	52%	37%	100%
August	5,946	24,757	17,599	48,301	12%	51%	36%	100%
September	5,732	24,348	17,467	47,546	12%	51%	37%	100%
October	5,508	24,311	17,129	46,947	12%	52%	36%	100%
November	4,971	22,324	16,186	43,481	11%	51%	37%	100%
December	5,091	22,456	16,196	43,743	12%	51%	37%	100%
Total	64,455	277,374	198,205	540,034				
Percent	12%	51%	37%	100%				

Time-of-Use Definitions:
 Priority Peak: 5 pm - 9 pm, Monday through Friday
 On-Peak: 7 am - 5 pm, Monday through Friday
 7 am - 9 pm, Saturday and Sunday
 Off-Peak: 9 pm - 7 am, Daily

Note: Normalized sales from sample estimates

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Table 8.6

AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL

Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
60-Minute Integrated kW Demand

<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
51	50	49	49	54	55	51	58	56	56	58	53
57	55	56	54	56	59	56	63	60	61	62	57
57	57	57	55	59	62	59	62	60	60	63	57
57	59	58	56	61	64	59	63	60	62	64	58
64	65	66	62	69	71	66	72	68	66	68	62
63	63	68	67	71	72	67	72	70	66	66	60
63	64	61	58	69	69	62	69	66	65	68	62
66	62	64	61	69	74	69	74	70	69	71	66
63	61	62	61	68	74	71	74	69	69	71	65
73	69	70	67	74	80	77	78	74	76	78	68
77	72	76	71	82	88	83	83	80	80	80	73
75	70	76	73	83	87	81	82	81	80	82	74
72	69	70	70	78	82	71	75	72	76	74	69
71	71	73	72	83	84	80	82	78	82	75	72
74	70	73	74	78	83	78	82	77	78	75	74
76	73	77	75	82	86	77	81	75	80	76	73
70	73	73	70	81	85	76	83	77	81	77	75
77	70	71	70	79	83	75	80	79	78	78	76
70	69	72	69	77	81	72	79	75	69	69	66
58	58	60	62	66	72	67	75	73	67	67	65
57	57	58	57	65	66	61	69	69	65	66	63
54	52	56	53	61	62	57	64	64	60	61	57
52	50	51	47	55	56	50	61	60	56	59	55
52	50	53	53	57	58	53	63	62	58	61	56
65	63	65	63	70	73	67	73	70	69	70	65

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Table 8.7

AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL

Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	51	50	49	48	54	58	50	54	55	52	50	49
2	53	52	52	51	56	60	53	57	59	55	54	52
3	53	51	52	50	55	59	53	56	58	55	54	52
4	51	51	50	49	54	58	51	55	56	55	55	52
5	53	51	51	50	57	59	54	57	59	56	54	51
6	48	48	50	49	53	57	51	54	56	53	51	50
7	53	52	49	48	54	58	51	55	55	53	55	54
8	58	57	57	55	61	66	59	65	66	64	61	58
9	59	58	58	58	64	69	62	67	68	65	63	60
10	65	63	62	60	67	73	64	69	70	69	66	64
11	69	66	67	65	74	79	70	75	75	73	69	68
12	67	65	67	66	74	79	70	75	76	74	71	70
13	65	62	64	62	70	75	64	69	71	69	65	65
14	66	66	67	67	75	80	70	77	77	76	68	67
15	69	67	67	67	73	79	69	76	76	73	69	70
16	72	70	72	69	76	82	70	76	76	74	69	68
17	69	69	70	67	76	82	71	77	76	73	69	66
18	69	67	68	65	71	76	67	72	73	69	66	64
19	66	63	63	61	68	73	63	67	66	64	61	60
20	61	60	61	61	66	71	62	67	68	66	62	60
21	57	57	58	58	64	69	60	64	66	63	59	58
22	56	54	55	54	61	64	56	60	61	59	56	54
23	57	55	53	52	59	62	54	60	60	56	55	53
24	53	52	53	52	58	62	54	59	60	56	54	53
Average	60	59	59	58	64	69	60	65	66	64	61	59

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Table 8.8

AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL

Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	53	49	50	49	52	56	50	57	57	54	57	53
2	61	57	52	54	56	56	56	63	61	60	63	58
3	57	56	58	55	60	59	57	61	61	58	62	58
4	62	57	60	57	62	60	57	62	61	59	63	59
5	68	64	67	60	66	69	64	70	67	62	66	63
6	64	61	69	65	67	70	64	68	66	60	60	59
7	67	60	61	58	65	68	62	68	66	61	65	64
8	67	66	67	63	70	74	69	74	73	73	68	67
9	68	65	66	61	71	74	69	72	69	70	65	63
10	70	69	70	68	75	76	74	75	73	70	72	65
11	74	70	71	69	81	86	78	82	78	76	74	71
12	69	69	77	72	80	83	73	81	81	75	75	72
13	71	71	67	69	75	80	70	74	74	73	69	66
14	70	73	71	74	80	84	76	80	73	77	73	66
15	72	71	70	72	76	79	78	81	74	75	72	70
16	71	75	71	72	79	78	74	83	75	76	73	69
17	69	70	69	70	71	82	72	77	75	76	74	68
18	70	68	66	67	68	78	66	74	72	71	73	71
19	65	67	65	62	68	76	63	71	69	65	65	64
20	58	60	61	62	63	69	62	70	69	64	67	66
21	57	54	60	57	64	64	60	66	69	62	62	63
22	54	55	55	56	61	60	57	62	62	60	59	58
23	52	54	50	49	55	56	51	59	59	56	58	59
24	52	54	52	51	54	59	54	60	61	59	60	58
Average	64	63	64	62	67	71	65	70	68	66	66	64

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Table 8.9

AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL

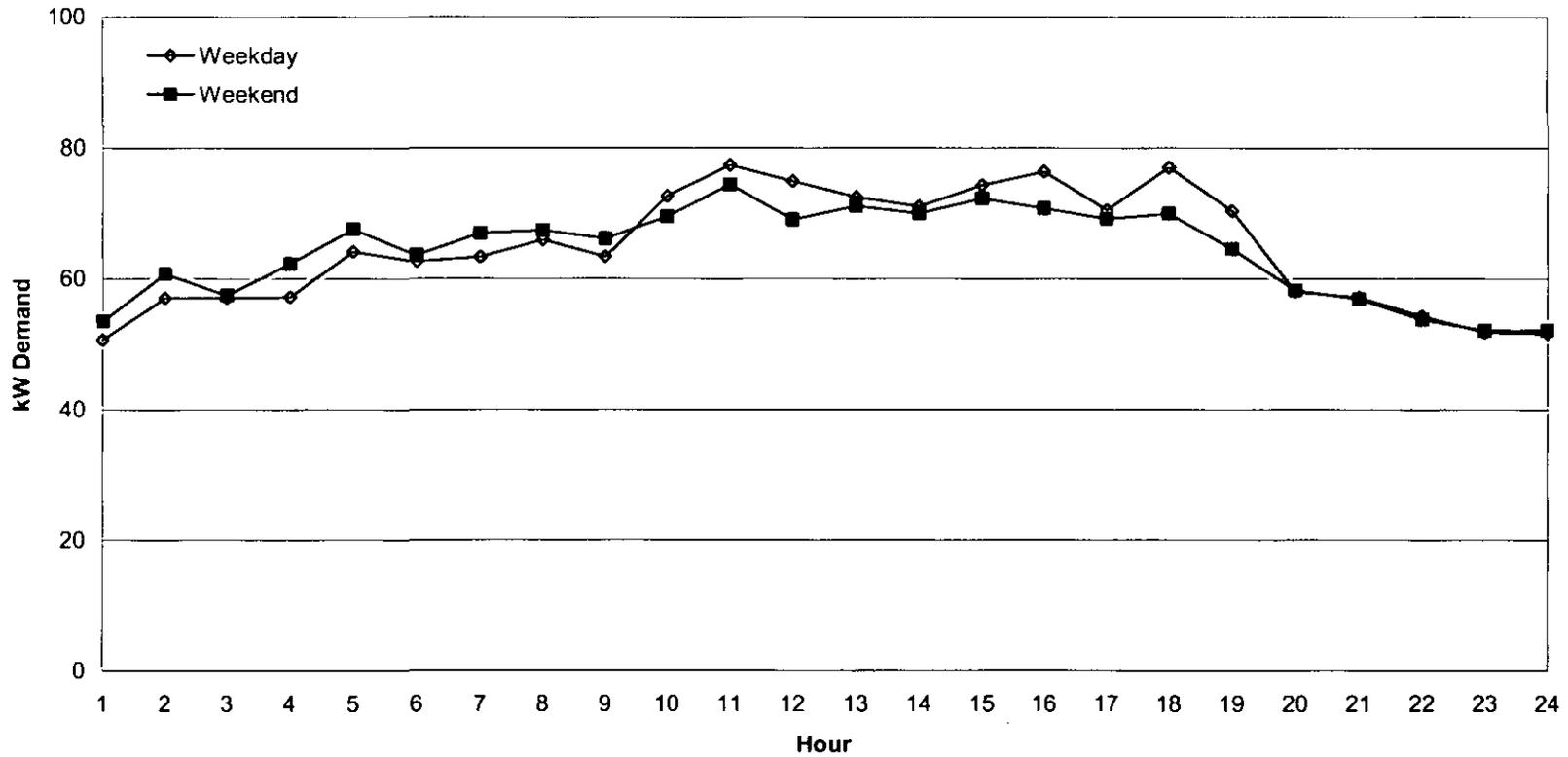
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	53	50	49	50	54	59	51	56	57	52	51	49
2	56	52	53	52	58	61	54	58	61	56	54	53
3	55	51	52	51	57	59	54	57	59	56	54	52
4	54	50	51	50	55	58	51	55	58	55	55	52
5	54	51	52	51	57	61	54	58	60	56	55	52
6	51	48	50	51	54	58	50	54	56	53	51	50
7	55	51	50	49	55	59	51	55	56	54	55	55
8	60	58	59	57	63	68	61	65	67	65	60	59
9	60	57	60	59	66	70	63	68	70	66	62	60
10	64	62	62	62	67	73	65	70	71	67	65	62
11	66	65	65	64	73	78	69	76	76	70	67	66
12	63	64	66	66	71	78	68	74	77	71	69	67
13	64	64	61	64	69	76	65	70	72	68	64	63
14	65	67	66	69	74	81	70	76	77	73	67	64
15	66	67	64	67	71	77	69	74	76	70	67	66
16	66	68	67	70	73	78	68	75	76	72	67	66
17	64	65	65	66	70	77	67	73	75	70	65	63
18	62	63	61	63	64	71	61	67	70	64	61	60
19	59	59	56	55	61	68	59	62	63	60	57	56
20	58	58	57	59	61	67	59	63	66	63	60	58
21	55	55	56	57	61	65	59	63	65	62	58	57
22	55	53	52	53	58	61	55	59	61	57	55	54
23	56	54	51	51	56	60	55	59	60	56	54	55
24	53	51	51	51	56	60	54	58	60	56	53	53
Average	59	58	57	58	63	68	60	64	66	62	59	58

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Exhibit 8.1 a

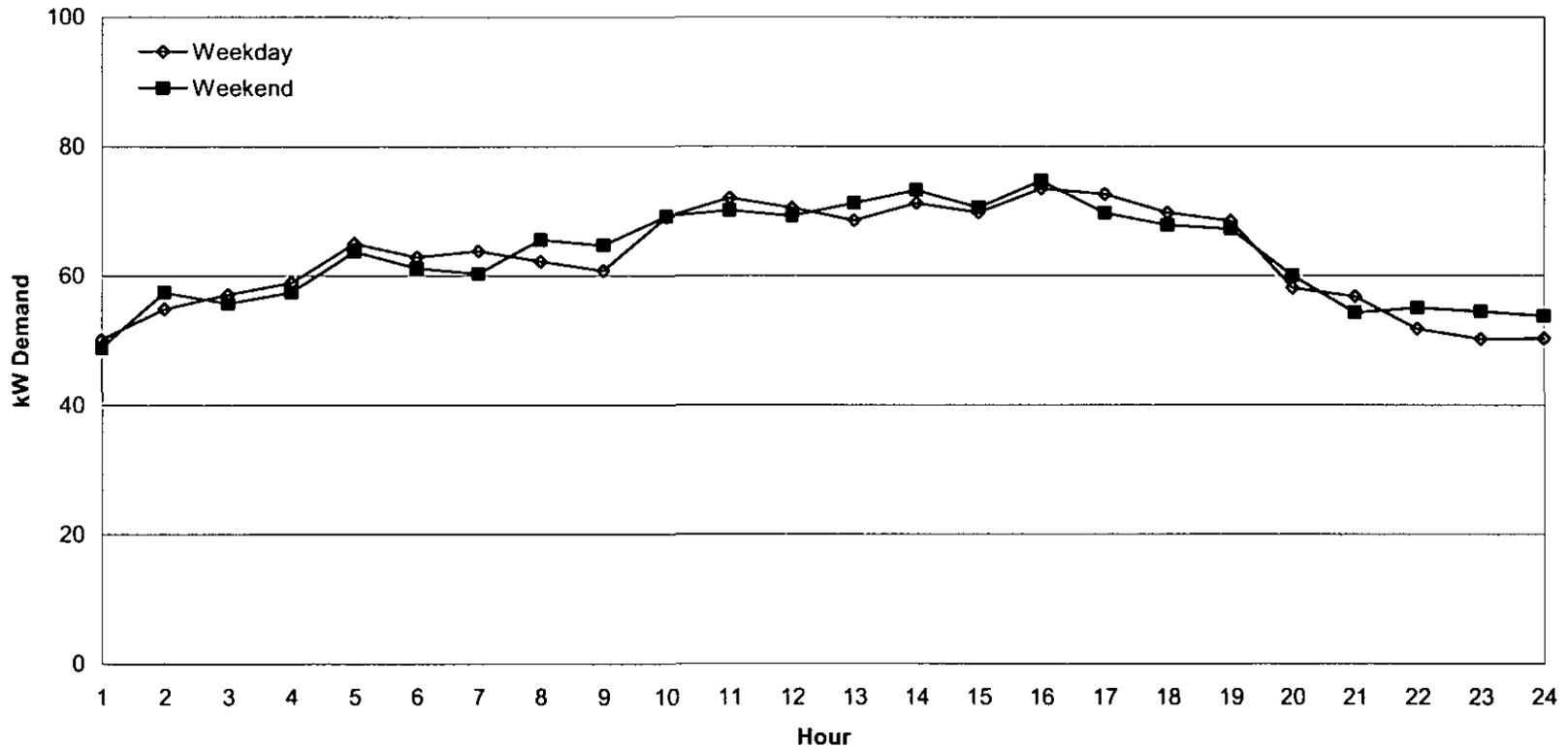
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
January 2005



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Exhibit 8.1 b

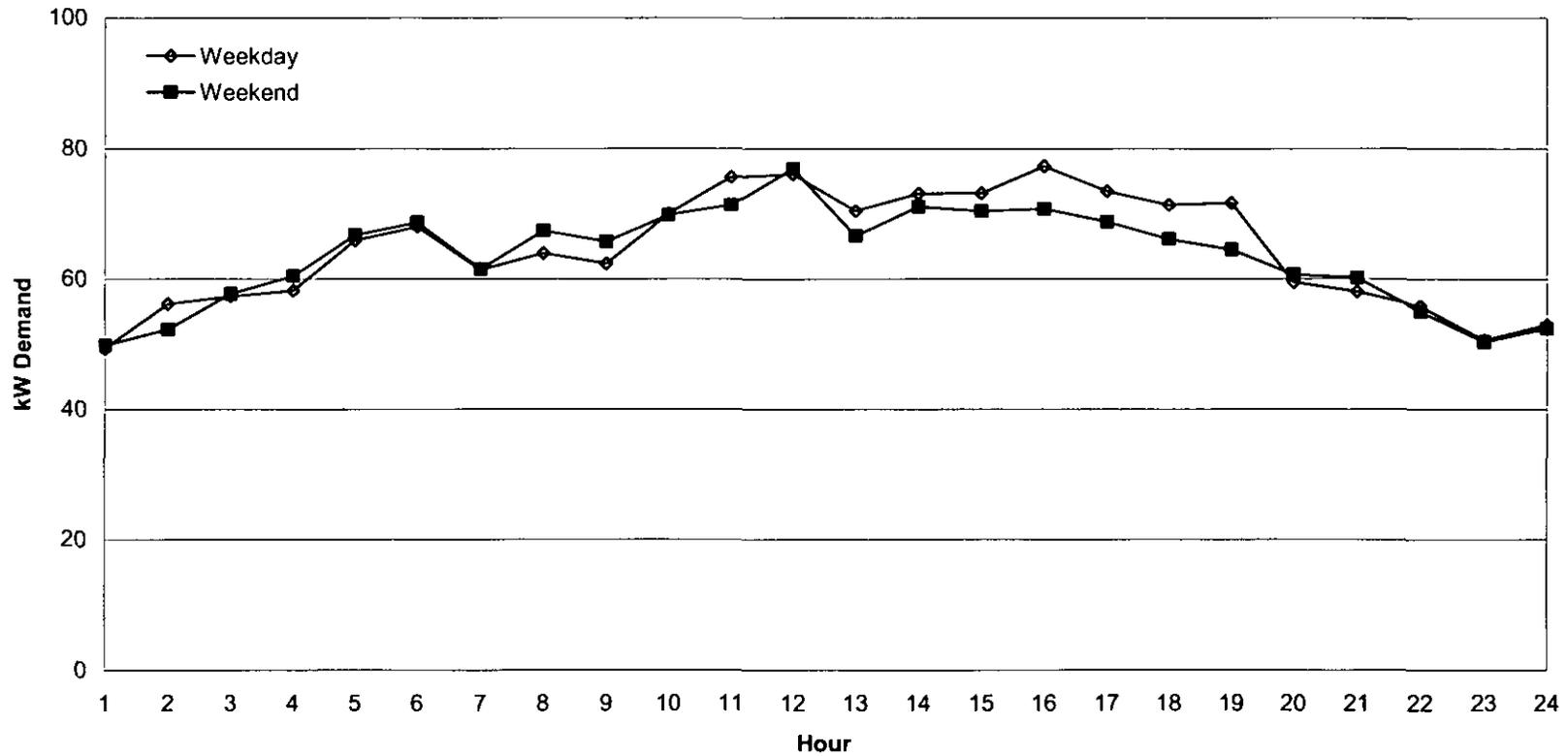
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
February 2005



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Exhibit 8.1 c

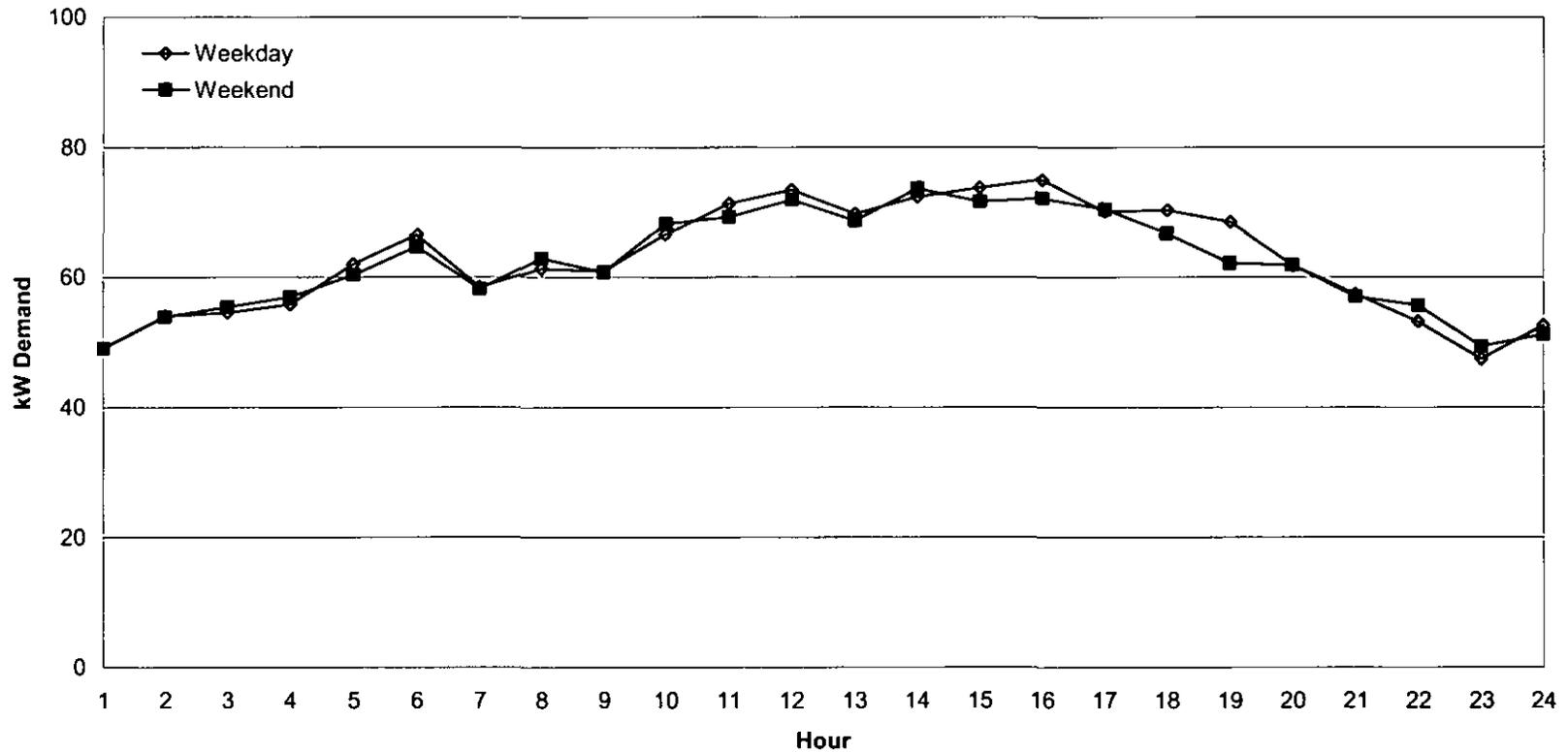
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
 March 2005



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Exhibit 8.1 d

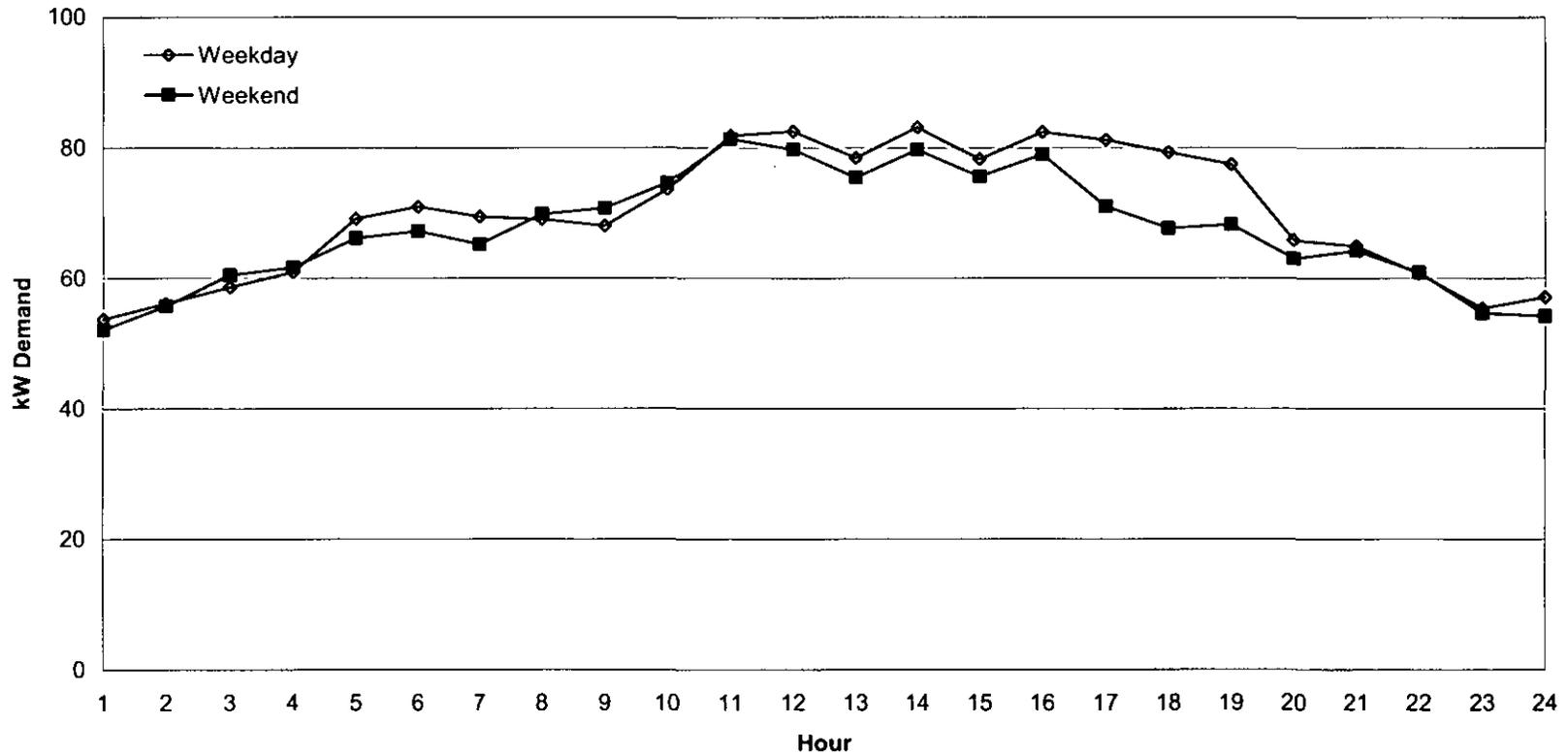
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
April 2005



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Exhibit 8.1 e

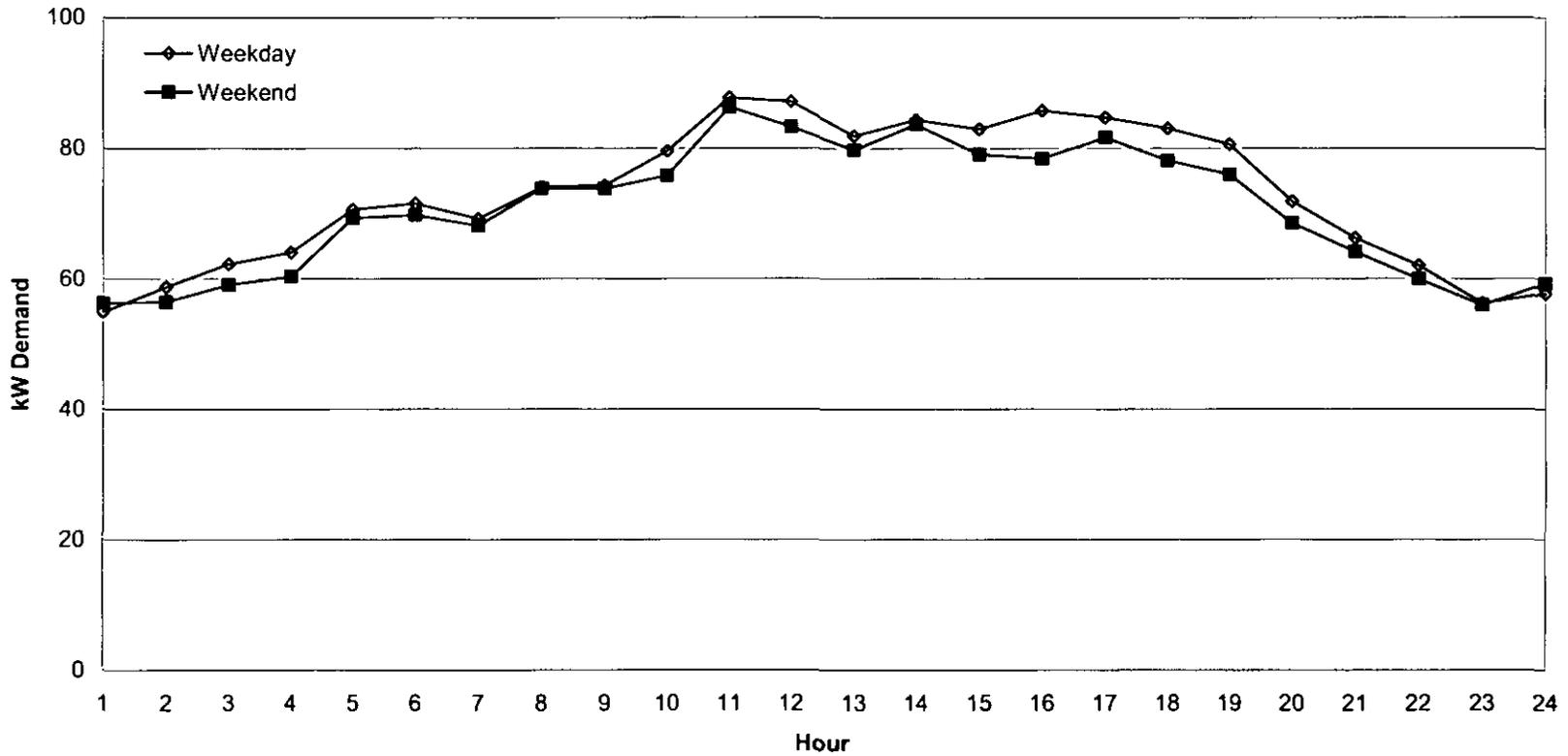
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
 May 2005



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Exhibit 8.1 f

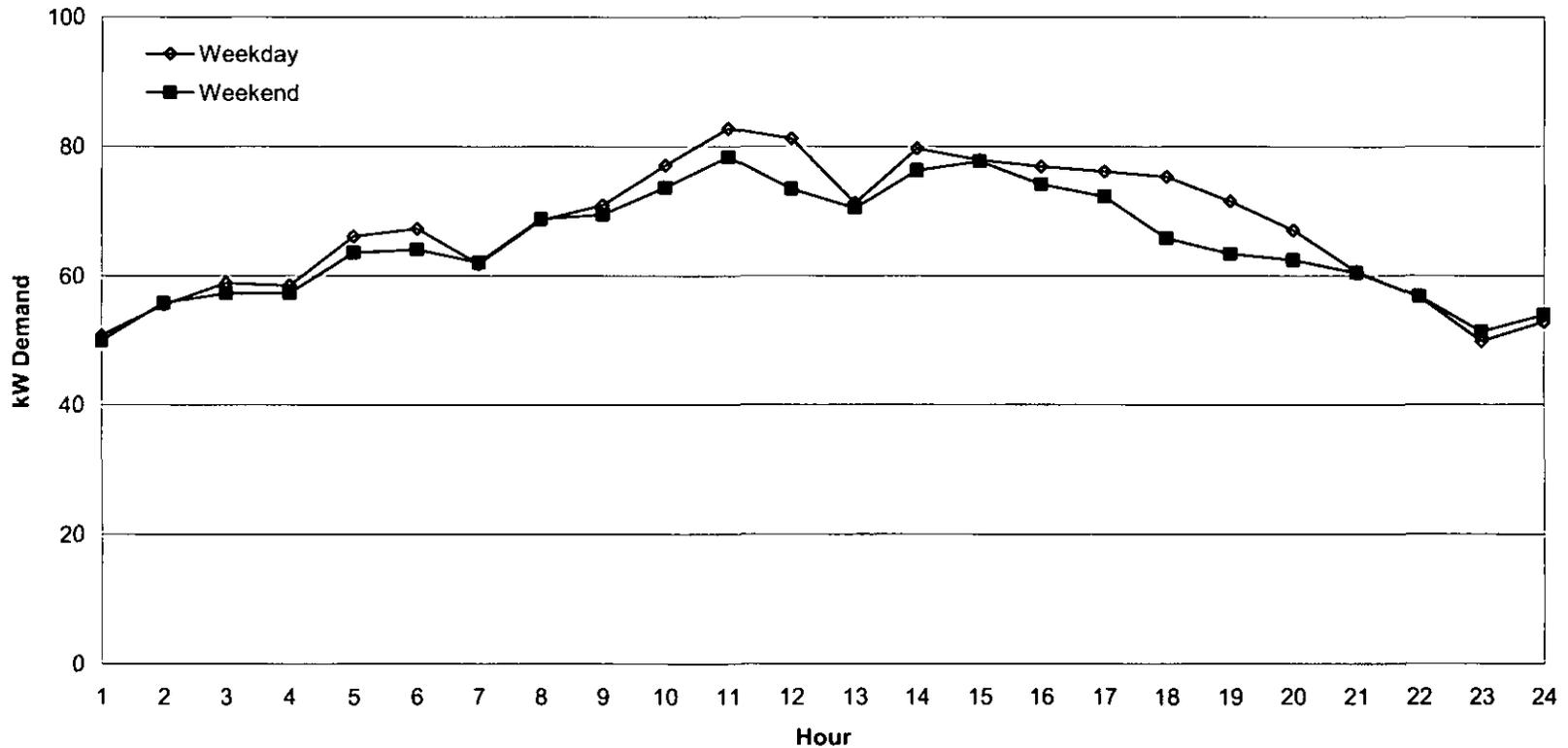
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
June 2005



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Exhibit 8.1 g

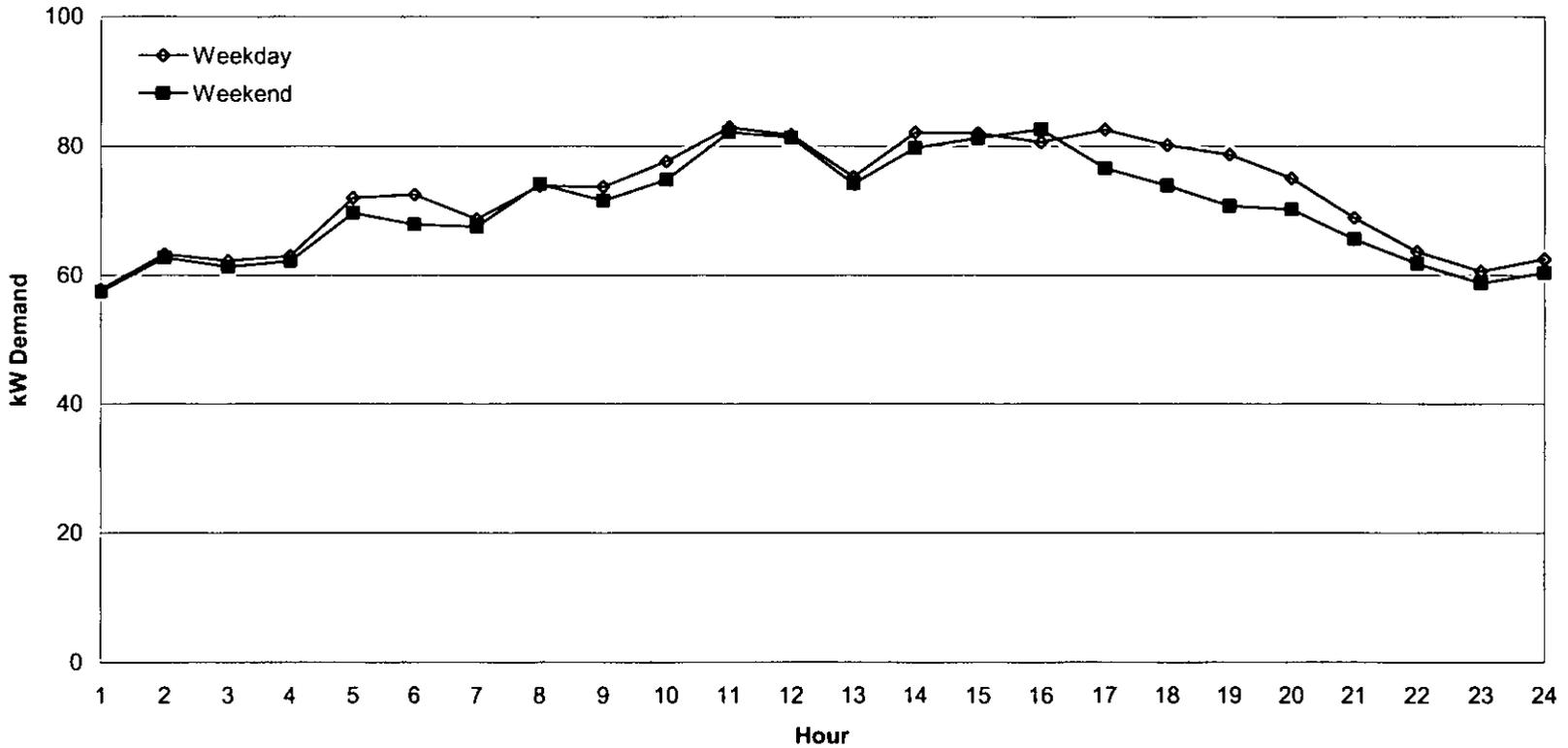
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
July 2005



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Exhibit 8.1 h

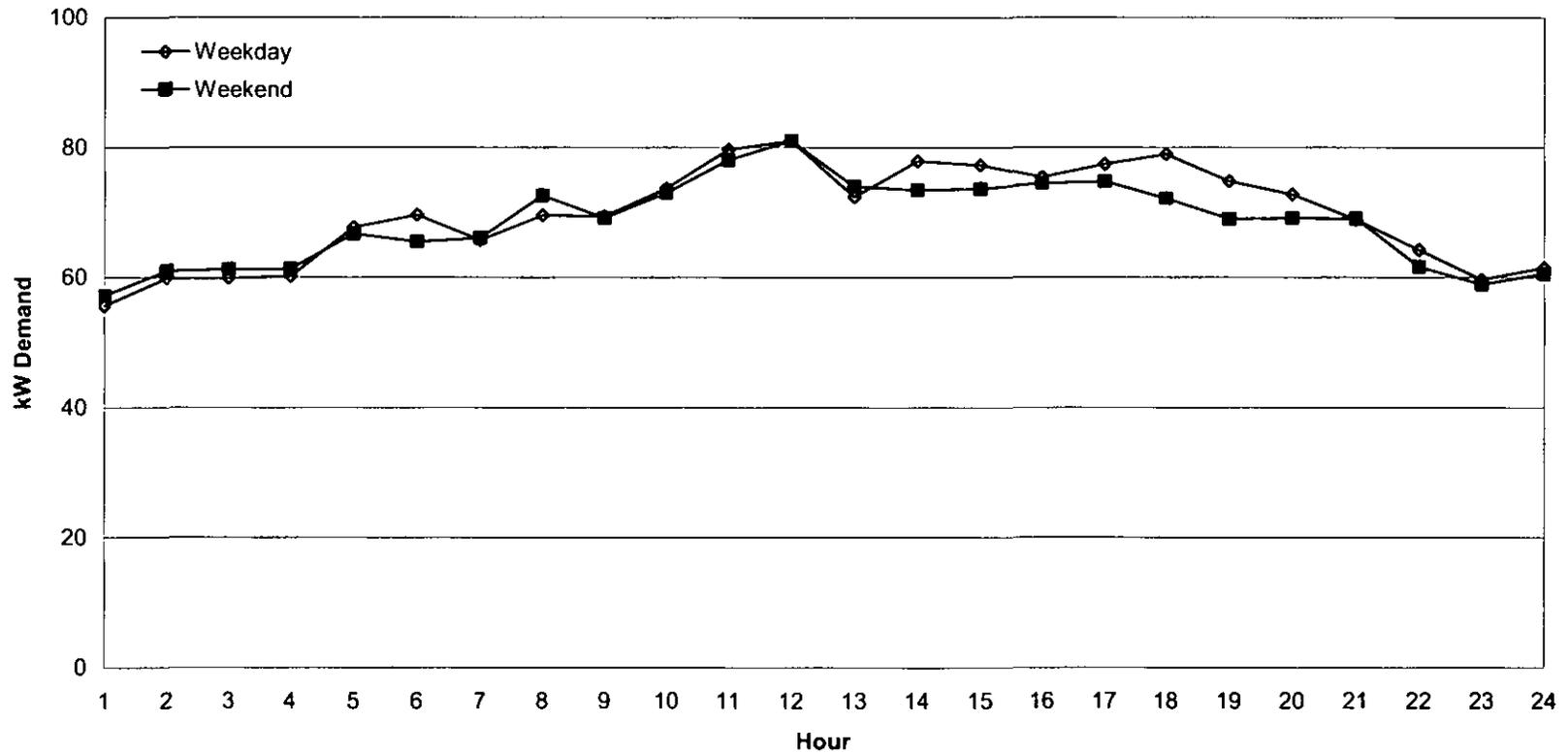
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
August 2005



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Exhibit 8.1 i

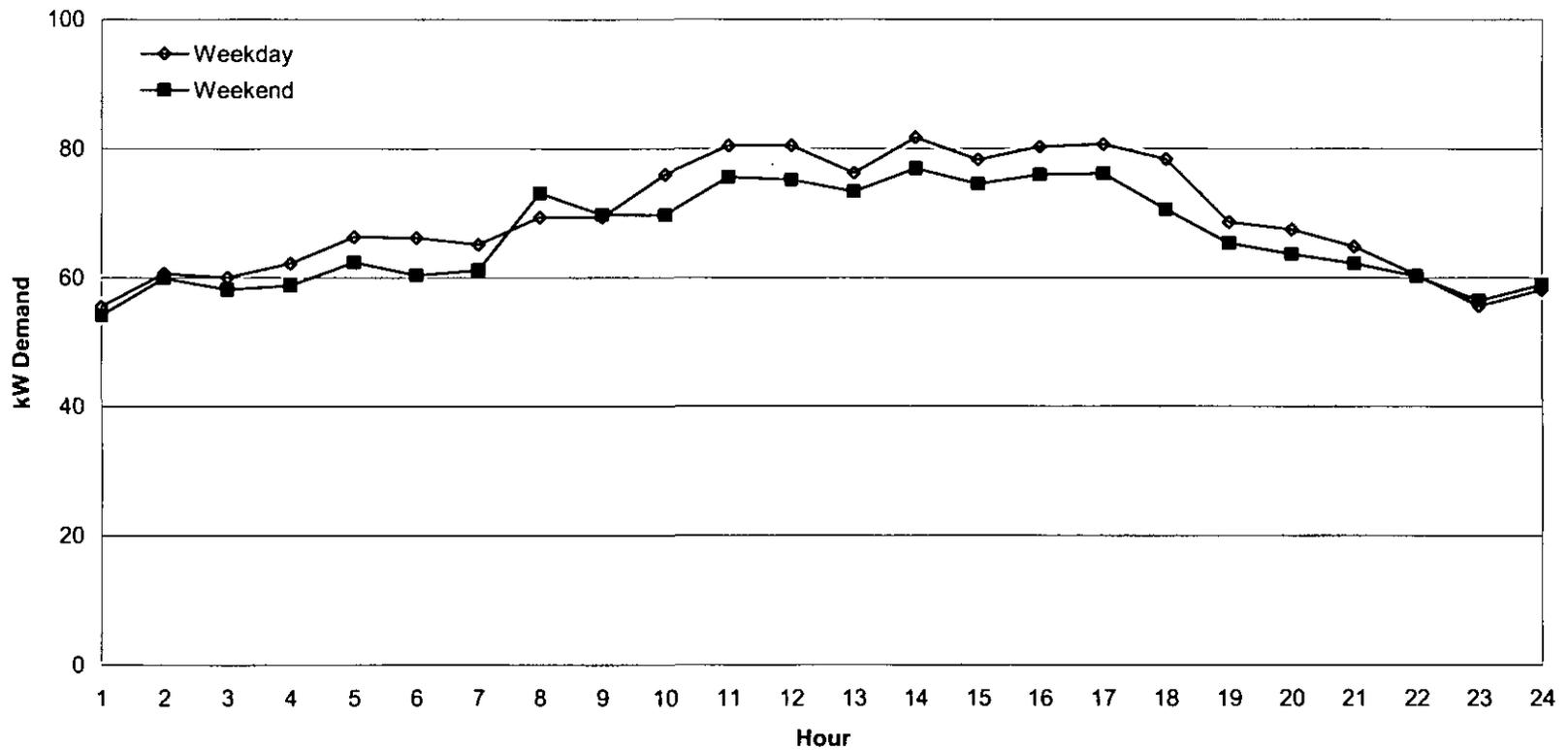
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
September 2005



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Exhibit 8.1 j

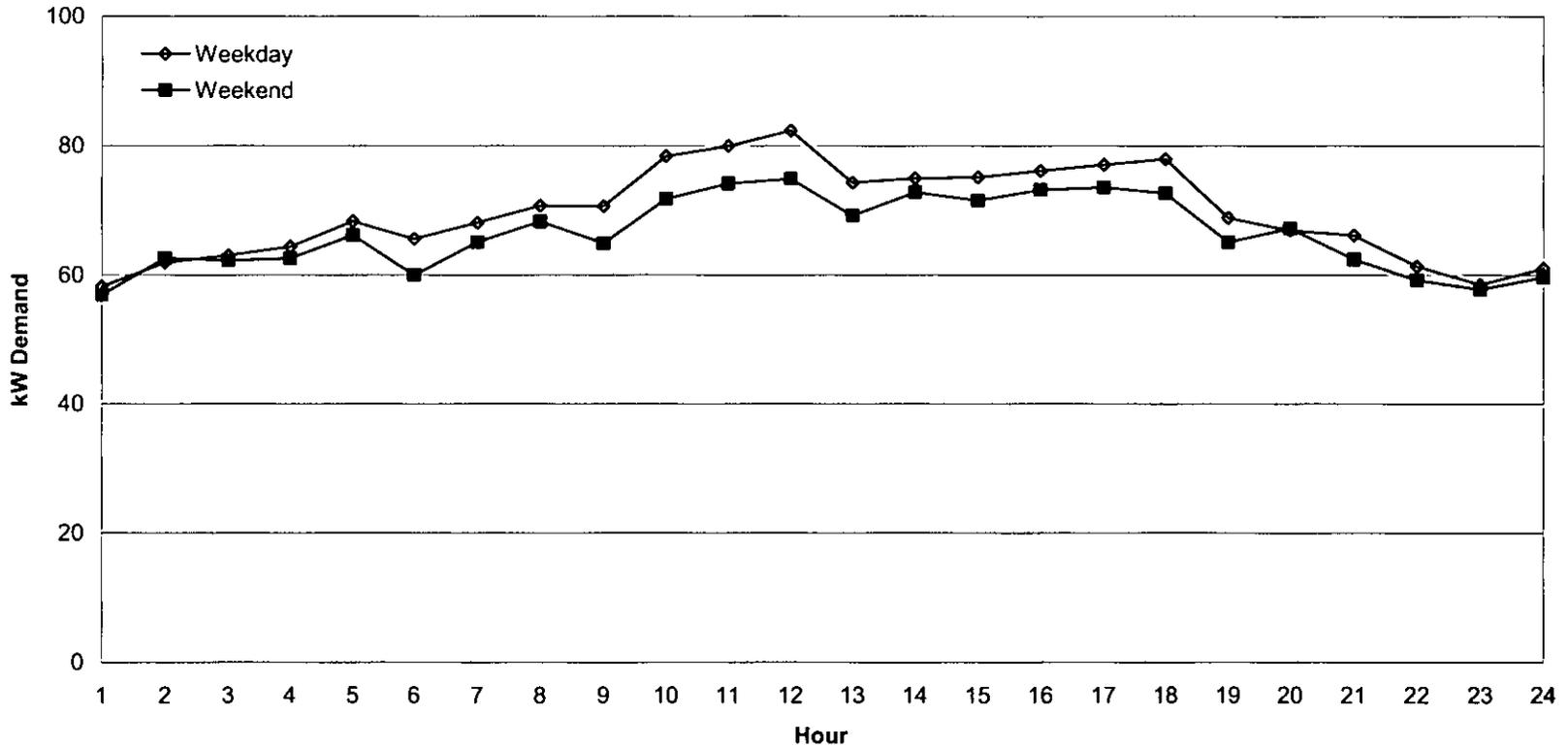
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
October 2005



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Exhibit 8.1 k

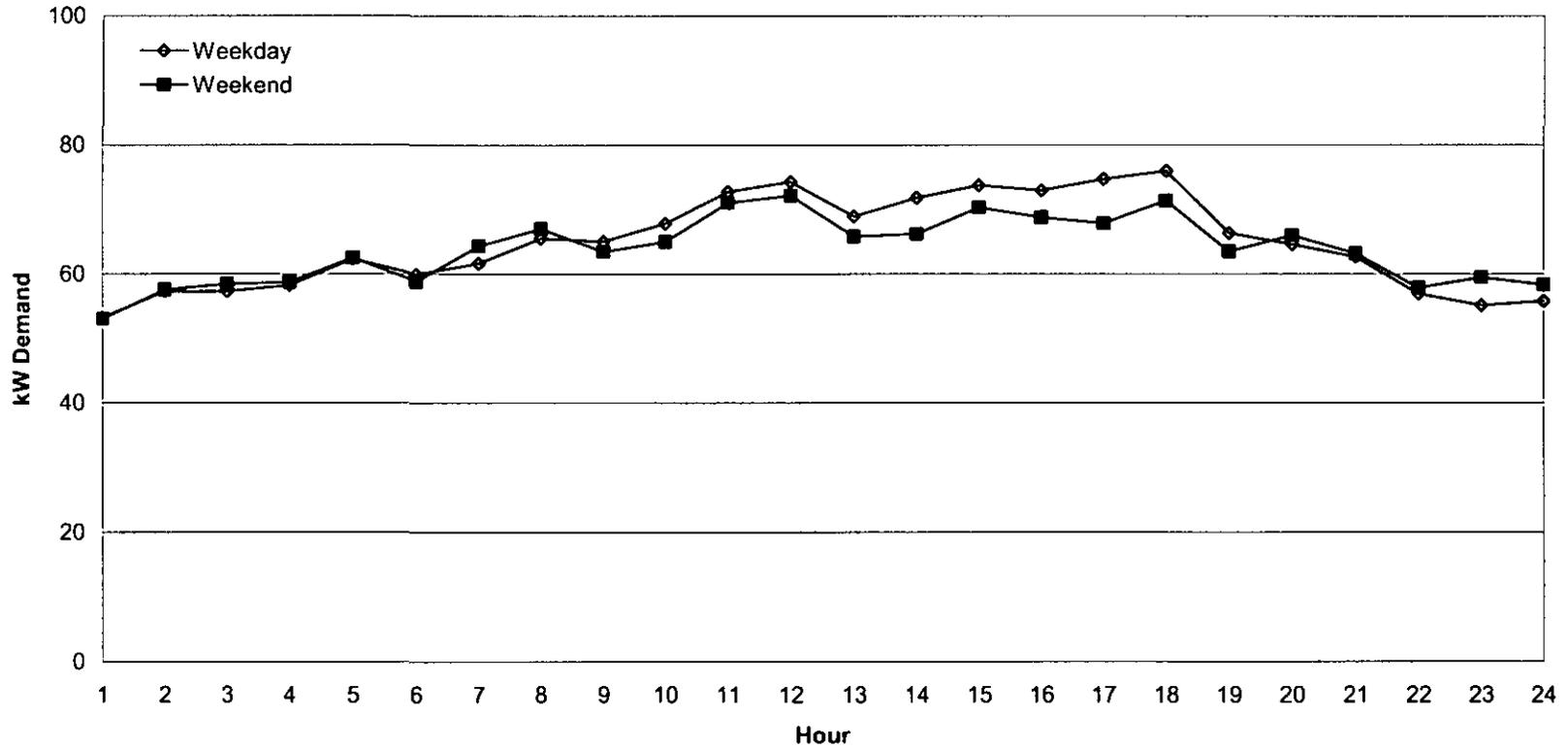
AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
November 2005



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Exhibit 8.1 I

AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
Schedule H: Commercial Cooking, Heating, Air Conditioning and Refrigeration Service
December 2005



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9. SCHEDULE P: LARGE POWER SERVICE

The Large Power Service class consists of the largest commercial customers on the system. During 2005 it contained three customers, who accounted for 11,577 MWh of sales, or 41% of the total.

Schedule P's load data revealed these patterns and characteristics:

1. During 2005 Schedule P's average monthly consumption ranged from a low of 269,935 kWh in February to a high of 354,253 kWh in December. The weighted average monthly consumption for the two customers in the sample¹ was 321,589 kWh, which essentially matched the average for the population, 321,580 kWh.
2. Table 9.1 summarizes the monthly Schedule P load statistics per customer normalized to the sales level. Table 9.1 also shows the non-coincident and coincident demands of the residential sample.

The non-coincident demand is a customer's highest demand during a calendar month. The class non-coincident demand is the total non-coincident demand of all the customers in the class.

The coincident demand of a customer is the demand which a customer puts on the system at a specified time, either the system peak, daytime peak or class peak. The class coincident demand is the total demand of all customers in the class at the specified time.

The diversity factor represents the extent to which the peak demand of each individual customer in the class occurs simultaneously. It is the ratio of the maximum non-coincident demand per customer to the coincident demand per customer at the class peak, expressed as a percent.

The Schedule P sample's average diversity factor was 103%. The average non-coincident demand per customer was 561 kW; the average coincident demand per customer at the class peak was 547 kW. The highest coincident demand and the highest non-coincident demand occurred in December. The maximum coincident demand was fairly constant throughout the year.

3. The sample's monthly load factor ranged from 77% to 84% during 2005, with an average monthly load factor of 80%.

¹ A third customer consists of seven meters, conjunctively billed under the rate schedule L01; these meters were not included in the sample. Their total kWh, however, is included in the official sales for Schedule P. By the terms of the 1988 acquisition of The Lanai Company's generation facilities by Maui Electric Light Company, Ltd., this customer does not incur a demand charge. When estimating each rate schedule's contributions to peak demands, therefore, this study reflects the fact that only two of the three Schedule P customers are demand customers.

4. Schedule P's monthly peaks occurred between 3 PM and 8 PM, except in February, when it occurred between 9 PM and 10 PM. Its hourly loads on the day of the class peak in each month are reported in Tables 9.2 (total class) and 9.3 (average per customer).
5. Table 9.4 summarizes the class contribution to the system and day peaks normalized to the gross generation. To extrapolate the demand from the sales level to the gross generation, the sample-based estimates for each class of sales at the peak hour were added, and the sum was normalized to the actual system or daytime peak for each month.

Schedule P's average contribution to the monthly system peaks and to the monthly daytime peaks was 40%.

Its contribution to the monthly system peaks ranged in amount from 1.5 MW in May to 2.2 MW in November and December, and in percentage from 32% in May to 45% in November.

The contribution to the daytime peak ranged in amount from 1.6 MW in February and November to 2.0 MW in January, and in percentage from 35% in October to 46% in January.

6. As shown in Table 9.5, 62% of Schedule P's consumption occurred during the system on-peak period (7 AM to 9 PM daily), with 13% occurring during the system priority peak period (5 PM to 9 PM, Monday through Friday).
7. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 9.6 through 9.9. The gross weekend and weekday loads are graphed in Exhibits 9.1a through 9.11.

In 2005 Schedule P's weekday and weekend load profiles were nearly identical. They rose slowly throughout the day to reach a peak between 6 PM and 7 PM, with a slight bump between 5 AM and 6 AM. Schedule P's weekday loads averaged 1% higher than its weekend loads.

Table 9.1
SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
Schedule P: Large Power Service

Average per customer															
Month	Sample Size	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/I)	O=(H/J)	P=(I/J)
January	2	310,946	62%	38%	01/01-16:00	541	477	501	563	104%	77%	74%	96%	85%	89%
February	2	269,935	63%	37%	02/08-22:00	513	454	420	521	101%	78%	77%	99%	87%	81%
March	2	288,305	63%	37%	03/25-17:00	501	469	443	511	102%	77%	76%	98%	92%	87%
April	2	314,502	62%	38%	04/20-18:00	549	480	468	579	106%	80%	75%	95%	83%	81%
May	2	325,177	62%	38%	05/17-20:00	541	485	462	550	102%	81%	79%	98%	88%	84%
June	2	343,771	63%	37%	06/15-20:00	571	550	534	585	102%	84%	82%	98%	94%	91%
July	2	334,633	62%	38%	07/14-16:00	538	461	461	555	103%	84%	81%	97%	83%	83%
August	2	325,987	62%	38%	08/09-20:00	552	531	512	560	102%	79%	78%	99%	95%	91%
September	2	328,216	62%	38%	09/21-20:00	564	477	512	574	102%	81%	79%	98%	83%	89%
October	2	343,450	62%	38%	10/28-17:00	564	522	487	578	103%	82%	80%	97%	90%	84%
November	2	319,781	62%	38%	11/24-19:00	527	527	490	541	102%	84%	82%	98%	98%	91%
December	2	354,253	63%	37%	12/31-19:00	600	573	511	609	102%	79%	78%	98%	94%	84%
Average	2	321,580	62%	38%		547	500	484	561	103%	80%	79%	98%	89%	86%

Notes:

- 1) kW Demand is 60-minute integrated demand.
- 2) On Peak is from 7 am to 9 pm daily.
- 3) Maximum non-coincident kW demand = individual maximum demands.
- 4) Diversity factor = ratio of the weighted sum of the maximum demand of each member of the class to the maximum coincident demand of the entire class.
- 5) Load factor = ratio (as a %) of kWh / (peak demand x number of hours).
- 6) Coincidence factor = ratio (as a %) of the maximum demand of the class to the weighted sum of the maximum demand of each member of the class.

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Table 9.2
 HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	1,383	1,079	1,028	1,178	1,184	1,296	1,228	1,267	1,252	1,214	1,157	1,252
2	1,279	1,066	1,006	1,165	1,107	1,247	1,179	1,255	1,216	1,205	1,149	1,244
3	1,231	1,042	993	1,121	1,104	1,215	1,123	1,228	1,182	1,189	1,130	1,226
4	1,139	1,018	971	1,097	1,049	1,207	1,100	1,183	1,178	1,161	1,111	1,206
5	1,142	1,010	971	1,118	1,037	1,192	1,119	1,184	1,193	1,141	1,130	1,205
6	1,172	1,033	1,046	1,139	1,061	1,201	1,124	1,150	1,245	1,187	1,210	1,280
7	1,211	1,151	1,055	1,241	1,110	1,262	1,257	1,227	1,293	1,286	1,261	1,350
8	1,287	1,233	1,134	1,278	1,170	1,286	1,238	1,337	1,309	1,353	1,329	1,399
9	1,414	1,224	1,198	1,355	1,268	1,386	1,349	1,432	1,376	1,392	1,354	1,514
10	1,457	1,282	1,239	1,355	1,286	1,506	1,397	1,481	1,419	1,464	1,419	1,596
11	1,435	1,359	1,367	1,405	1,370	1,543	1,454	1,546	1,453	1,436	1,471	1,581
12	1,504	1,442	1,413	1,383	1,434	1,555	1,463	1,534	1,553	1,439	1,448	1,579
13	1,457	1,360	1,383	1,376	1,387	1,558	1,501	1,546	1,485	1,397	1,425	1,577
14	1,447	1,490	1,479	1,403	1,452	1,553	762	1,567	1,497	1,582	1,485	1,645
15	1,613	1,461	1,425	1,497	1,488	1,656	1,366	1,586	1,519	1,608	1,494	1,640
16	1,624	1,500	1,470	1,622	1,497	1,633	1,615	1,601	1,562	1,657	1,549	1,684
17	1,435	1,464	1,504	1,637	1,561	1,673	1,588	1,647	1,591	1,692	1,554	1,719
18	1,440	1,438	1,435	1,646	1,548	1,634	1,574	1,604	1,623	1,660	1,556	1,682
19	1,398	1,510	1,461	1,522	1,586	1,630	1,547	1,586	1,640	1,682	1,582	1,800
20	1,444	1,525	1,446	1,619	1,623	1,713	1,610	1,656	1,691	1,669	1,543	1,785
21	1,443	1,507	1,482	1,521	1,563	1,657	1,573	1,614	1,638	1,650	1,508	1,655
22	1,371	1,540	1,401	1,491	1,501	1,650	1,486	1,572	1,592	1,620	1,435	1,647
23	1,368	1,362	1,317	1,446	1,407	1,519	1,433	1,503	1,523	1,559	1,310	1,581
24	1,227	1,274	1,227	1,274	1,262	1,383	1,325	1,345	1,434	1,419	1,207	1,476
Average	1,372	1,307	1,269	1,370	1,336	1,465	1,350	1,444	1,436	1,444	1,367	1,513

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Table 9.3
 HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	461	360	343	393	395	432	409	422	417	405	386	417
2	426	355	335	388	369	416	393	418	405	402	383	415
3	410	347	331	374	368	405	374	409	394	396	377	409
4	380	339	324	366	350	402	367	394	393	387	370	402
5	381	337	324	373	346	397	373	395	398	380	377	402
6	391	344	349	380	354	400	375	383	415	396	403	427
7	404	384	352	414	370	421	419	409	431	429	420	450
8	429	411	378	426	390	429	413	446	436	451	443	466
9	471	408	399	452	423	462	450	477	459	464	451	505
10	486	427	413	452	429	502	466	494	473	488	473	532
11	478	453	456	468	457	514	485	515	484	479	490	527
12	501	481	471	461	478	518	488	511	518	480	483	526
13	486	453	461	459	462	519	500	515	495	466	475	526
14	482	497	493	468	484	518	254	522	499	527	495	548
15	538	487	475	499	496	552	455	529	506	536	498	547
16	541	500	490	541	499	544	538	534	521	552	516	561
17	478	488	501	546	520	558	529	549	530	564	518	573
18	480	479	478	549	516	545	525	535	541	553	519	561
19	466	503	487	507	529	543	516	529	547	561	527	600
20	481	508	482	540	541	571	537	552	564	556	514	595
21	481	502	494	507	521	552	524	538	546	550	503	552
22	457	513	467	497	500	550	495	524	531	540	478	549
23	456	454	439	482	469	506	478	501	508	520	437	527
24	409	425	409	425	421	461	442	448	478	473	402	492
Average	457	436	423	457	445	488	450	481	479	481	456	504

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Table 9.4
CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand at the Gross Level, Normalized

<u>Month</u>	<u>SYSTEM PEAK</u>		<u>DAYTIME PEAK</u>	
	<u>CLASS kW</u>	<u>% OF SYSTEM</u>	<u>CLASS kW</u>	<u>% OF SYSTEM</u>
January	1,734	37%	1,983	46%
February	1,719	37%	1,555	36%
March	1,780	38%	1,737	38%
April	1,829	40%	1,902	43%
May	1,541	32%	1,722	38%
June	1,926	40%	1,935	42%
July	2,046	43%	1,867	39%
August	1,996	42%	1,885	41%
September	1,920	39%	1,722	37%
October	1,934	41%	1,618	35%
November	2,159	45%	1,927	40%
December	2,249	44%	1,869	40%
Average	1,903	40%	1,810	40%

Note: The annual instantaneous system peak of 5.2 MW occurred on December 27, 2005 @ 18:35

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Table 9.5
CLASS kWh LOAD BY TIME-OF-USE AT THE SALES LEVEL
 Schedule P: Large Power Service

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	112,046	467,880	352,911	932,837	12%	50%	38%	100%
February	104,793	402,350	302,662	809,805	13%	50%	37%	100%
March	115,020	425,851	324,045	864,916	13%	49%	37%	100%
April	123,527	463,186	356,792	943,505	13%	49%	38%	100%
May	124,036	485,482	366,014	975,532	13%	50%	38%	100%
June	133,720	510,999	386,593	1,031,312	13%	50%	37%	100%
July	120,767	504,164	378,968	1,003,899	12%	50%	38%	100%
August	125,677	479,280	373,003	977,960	13%	49%	38%	100%
September	125,841	481,607	377,200	984,648	13%	49%	38%	100%
October	125,660	510,136	394,554	1,030,350	12%	50%	38%	100%
November	116,614	482,505	360,224	959,344	12%	50%	38%	100%
December	134,025	531,171	397,562	1,062,758	13%	50%	37%	100%
Total	1,461,726	5,744,611	4,370,529	11,576,866				
Percent	13%	50%	38%	100%				

Note: Normalized sales from sample estimates

Time-of-Use Definitions:

Priority Peak: 5 pm - 9 pm, Monday through Friday
 On-Peak: 7 am - 5 pm, Monday through Friday
 7 am - 9 pm, Saturday and Sunday
 Off-Peak: 9 pm - 7 am, Daily

Table 9.6
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	1,084	1,044	1,031	1,176	1,177	1,222	1,218	1,298	1,257	1,338	1,338	1,329
2	1,126	1,058	1,067	1,192	1,132	1,206	1,219	1,287	1,239	1,323	1,298	1,328
3	1,127	1,108	1,069	1,199	1,188	1,255	1,261	1,271	1,244	1,291	1,306	1,330
4	1,156	1,136	1,121	1,239	1,233	1,304	1,280	1,297	1,276	1,324	1,305	1,333
5	1,246	1,238	1,221	1,345	1,310	1,371	1,371	1,395	1,368	1,385	1,420	1,452
6	1,367	1,325	1,335	1,500	1,452	1,482	1,476	1,494	1,515	1,502	1,523	1,537
7	1,344	1,322	1,290	1,438	1,463	1,480	1,450	1,484	1,542	1,576	1,536	1,522
8	1,345	1,255	1,239	1,366	1,344	1,456	1,435	1,399	1,395	1,429	1,497	1,550
9	1,333	1,245	1,223	1,378	1,354	1,522	1,527	1,422	1,410	1,466	1,517	1,591
10	1,431	1,340	1,332	1,449	1,457	1,640	1,661	1,518	1,474	1,596	1,654	1,615
11	1,450	1,402	1,394	1,501	1,524	1,694	1,678	1,545	1,492	1,615	1,625	1,609
12	1,462	1,404	1,412	1,529	1,579	1,712	1,690	1,550	1,560	1,586	1,624	1,592
13	1,453	1,418	1,378	1,522	1,586	1,695	1,611	1,560	1,504	1,597	1,607	1,592
14	1,411	1,410	1,378	1,518	1,561	1,654	1,631	1,534	1,481	1,592	1,590	1,641
15	1,435	1,383	1,373	1,556	1,567	1,680	1,653	1,561	1,504	1,605	1,596	1,666
16	1,439	1,404	1,401	1,597	1,608	1,694	1,637	1,531	1,489	1,646	1,615	1,690
17	1,396	1,372	1,357	1,517	1,582	1,669	1,624	1,561	1,549	1,686	1,644	1,804
18	1,533	1,426	1,375	1,577	1,642	1,727	1,686	1,610	1,644	1,707	1,730	1,888
19	1,516	1,504	1,475	1,662	1,668	1,722	1,682	1,665	1,701	1,612	1,661	1,797
20	1,346	1,333	1,283	1,500	1,494	1,630	1,661	1,599	1,608	1,521	1,580	1,716
21	1,402	1,377	1,299	1,438	1,502	1,528	1,521	1,523	1,535	1,526	1,587	1,688
22	1,312	1,276	1,293	1,399	1,410	1,516	1,500	1,448	1,438	1,505	1,512	1,574
23	1,178	1,140	1,127	1,226	1,260	1,352	1,278	1,335	1,291	1,385	1,364	1,441
24	1,138	1,103	1,107	1,253	1,225	1,279	1,249	1,346	1,270	1,359	1,358	1,373
Average	1,335	1,293	1,274	1,420	1,430	1,520	1,500	1,468	1,449	1,507	1,520	1,569

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Table 9.7
AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
Schedule P: Large Power Service
60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	1,088	1,048	1,023	1,159	1,179	1,285	1,211	1,209	1,235	1,254	1,160	1,227
2	1,055	1,007	989	1,123	1,132	1,237	1,170	1,161	1,222	1,209	1,136	1,205
3	1,042	991	966	1,098	1,109	1,196	1,136	1,147	1,207	1,188	1,124	1,200
4	1,036	977	963	1,090	1,093	1,173	1,115	1,124	1,198	1,181	1,116	1,190
5	1,025	975	950	1,080	1,072	1,155	1,114	1,111	1,192	1,175	1,130	1,198
6	1,053	1,006	973	1,104	1,085	1,179	1,123	1,119	1,222	1,208	1,192	1,272
7	1,119	1,078	1,035	1,176	1,145	1,247	1,196	1,185	1,300	1,294	1,247	1,344
8	1,186	1,149	1,101	1,227	1,180	1,305	1,238	1,221	1,324	1,317	1,294	1,379
9	1,243	1,186	1,141	1,303	1,275	1,421	1,324	1,292	1,378	1,384	1,363	1,475
10	1,279	1,227	1,174	1,315	1,335	1,496	1,377	1,349	1,406	1,444	1,400	1,518
11	1,299	1,279	1,229	1,367	1,378	1,527	1,421	1,404	1,405	1,460	1,411	1,507
12	1,308	1,286	1,242	1,384	1,411	1,554	1,448	1,426	1,465	1,455	1,407	1,502
13	1,303	1,287	1,242	1,362	1,416	1,561	1,458	1,439	1,467	1,454	1,406	1,496
14	1,315	1,303	1,268	1,396	1,406	1,571	1,426	1,431	1,471	1,471	1,433	1,522
15	1,332	1,334	1,265	1,405	1,465	1,610	1,474	1,442	1,475	1,498	1,461	1,570
16	1,353	1,334	1,298	1,466	1,491	1,621	1,497	1,448	1,501	1,523	1,472	1,585
17	1,374	1,298	1,299	1,455	1,485	1,612	1,510	1,456	1,514	1,520	1,473	1,603
18	1,370	1,364	1,303	1,466	1,475	1,590	1,503	1,452	1,510	1,513	1,463	1,600
19	1,414	1,392	1,303	1,486	1,469	1,569	1,493	1,418	1,498	1,500	1,480	1,626
20	1,419	1,386	1,319	1,470	1,491	1,620	1,531	1,427	1,513	1,490	1,460	1,603
21	1,399	1,373	1,303	1,460	1,472	1,588	1,512	1,415	1,471	1,482	1,428	1,553
22	1,358	1,332	1,279	1,416	1,408	1,551	1,473	1,372	1,368	1,476	1,379	1,499
23	1,301	1,248	1,191	1,346	1,342	1,478	1,396	1,318	1,303	1,404	1,286	1,395
24	1,162	1,135	1,103	1,246	1,242	1,363	1,277	1,270	1,237	1,310	1,208	1,294
Average	1,243	1,208	1,165	1,308	1,315	1,438	1,351	1,318	1,370	1,384	1,330	1,432

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Table 9.8
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	1,179	1,050	1,034	1,181	1,145	1,232	1,202	1,244	1,279	1,324	1,312	1,329
2	1,195	1,134	968	1,186	1,110	1,162	1,219	1,246	1,240	1,303	1,319	1,323
3	1,140	1,088	1,070	1,215	1,176	1,220	1,213	1,216	1,268	1,253	1,296	1,337
4	1,237	1,142	1,135	1,253	1,226	1,264	1,253	1,273	1,284	1,266	1,287	1,341
5	1,325	1,217	1,210	1,299	1,250	1,338	1,299	1,346	1,359	1,319	1,367	1,420
6	1,352	1,289	1,312	1,421	1,355	1,445	1,418	1,408	1,441	1,373	1,394	1,483
7	1,401	1,276	1,270	1,412	1,355	1,442	1,435	1,444	1,514	1,457	1,478	1,553
8	1,359	1,271	1,267	1,382	1,314	1,409	1,401	1,365	1,431	1,488	1,468	1,550
9	1,410	1,316	1,262	1,362	1,372	1,470	1,461	1,313	1,351	1,445	1,402	1,551
10	1,431	1,352	1,335	1,466	1,447	1,514	1,530	1,392	1,416	1,508	1,556	1,569
11	1,502	1,330	1,347	1,496	1,515	1,636	1,589	1,472	1,436	1,554	1,550	1,611
12	1,470	1,356	1,462	1,484	1,554	1,610	1,566	1,516	1,494	1,533	1,520	1,614
13	1,497	1,387	1,351	1,471	1,517	1,579	1,544	1,479	1,455	1,576	1,525	1,556
14	1,448	1,385	1,332	1,465	1,522	1,563	1,569	1,478	1,370	1,534	1,566	1,562
15	1,503	1,376	1,356	1,509	1,532	1,602	1,647	1,546	1,409	1,574	1,562	1,638
16	1,497	1,452	1,354	1,505	1,579	1,558	1,602	1,553	1,431	1,592	1,624	1,637
17	1,498	1,420	1,340	1,548	1,488	1,641	1,606	1,497	1,464	1,646	1,669	1,682
18	1,563	1,447	1,377	1,541	1,549	1,721	1,611	1,554	1,503	1,657	1,758	1,862
19	1,536	1,547	1,497	1,646	1,604	1,744	1,595	1,614	1,579	1,654	1,707	1,825
20	1,436	1,436	1,395	1,536	1,514	1,635	1,627	1,603	1,537	1,544	1,650	1,782
21	1,442	1,358	1,405	1,446	1,532	1,559	1,556	1,509	1,534	1,526	1,543	1,704
22	1,338	1,343	1,327	1,487	1,476	1,507	1,518	1,472	1,443	1,554	1,510	1,611
23	1,221	1,256	1,169	1,305	1,296	1,370	1,325	1,351	1,348	1,432	1,386	1,514
24	1,199	1,207	1,143	1,254	1,201	1,335	1,290	1,324	1,328	1,384	1,356	1,418
Average	1,382	1,310	1,280	1,411	1,401	1,482	1,461	1,426	1,413	1,479	1,492	1,561

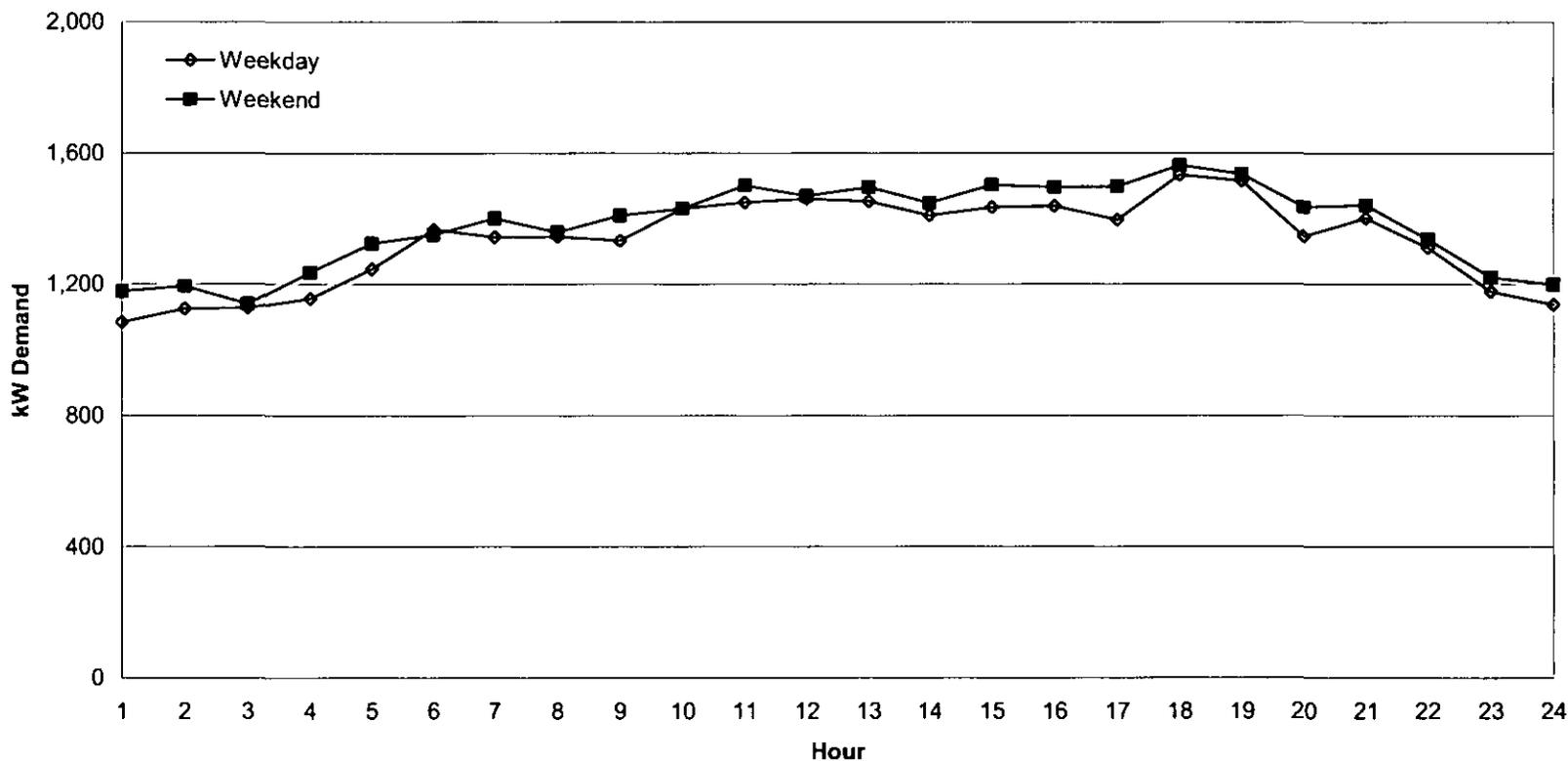
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Table 9.9
AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule P: Large Power Service
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	1,162	1,066	1,023	1,194	1,197	1,289	1,225	1,205	1,277	1,280	1,181	1,234
2	1,108	1,027	984	1,142	1,147	1,252	1,170	1,159	1,233	1,223	1,147	1,211
3	1,092	996	962	1,117	1,100	1,214	1,144	1,134	1,211	1,202	1,131	1,200
4	1,068	996	953	1,110	1,096	1,206	1,120	1,134	1,212	1,192	1,127	1,193
5	1,063	975	937	1,103	1,069	1,177	1,105	1,120	1,213	1,183	1,135	1,181
6	1,091	1,008	964	1,118	1,081	1,191	1,116	1,121	1,236	1,203	1,189	1,268
7	1,158	1,078	1,033	1,190	1,150	1,255	1,190	1,178	1,292	1,281	1,243	1,339
8	1,217	1,128	1,111	1,256	1,180	1,301	1,234	1,201	1,315	1,313	1,297	1,365
9	1,276	1,167	1,151	1,325	1,276	1,400	1,324	1,251	1,360	1,372	1,350	1,463
10	1,310	1,215	1,182	1,329	1,304	1,461	1,352	1,302	1,381	1,440	1,399	1,508
11	1,329	1,240	1,224	1,381	1,350	1,474	1,396	1,360	1,395	1,447	1,404	1,499
12	1,338	1,255	1,248	1,363	1,392	1,510	1,445	1,388	1,413	1,453	1,405	1,497
13	1,338	1,255	1,232	1,378	1,396	1,504	1,432	1,390	1,423	1,459	1,407	1,479
14	1,336	1,262	1,237	1,376	1,413	1,506	1,443	1,406	1,440	1,456	1,432	1,519
15	1,378	1,310	1,238	1,414	1,440	1,551	1,461	1,408	1,451	1,485	1,455	1,541
16	1,395	1,317	1,274	1,458	1,453	1,558	1,475	1,414	1,468	1,516	1,481	1,563
17	1,390	1,331	1,274	1,448	1,463	1,555	1,489	1,419	1,461	1,504	1,486	1,562
18	1,380	1,340	1,267	1,443	1,454	1,561	1,501	1,413	1,448	1,504	1,481	1,563
19	1,403	1,364	1,304	1,465	1,440	1,557	1,475	1,413	1,438	1,506	1,508	1,609
20	1,422	1,379	1,309	1,457	1,469	1,601	1,527	1,448	1,462	1,538	1,473	1,578
21	1,401	1,365	1,298	1,450	1,450	1,588	1,508	1,441	1,444	1,513	1,434	1,541
22	1,372	1,300	1,255	1,426	1,400	1,532	1,471	1,402	1,422	1,480	1,393	1,500
23	1,325	1,238	1,190	1,359	1,332	1,473	1,414	1,352	1,380	1,421	1,306	1,403
24	1,208	1,152	1,103	1,261	1,237	1,350	1,297	1,272	1,311	1,321	1,211	1,298
Average	1,273	1,198	1,156	1,315	1,304	1,419	1,346	1,305	1,362	1,387	1,336	1,421

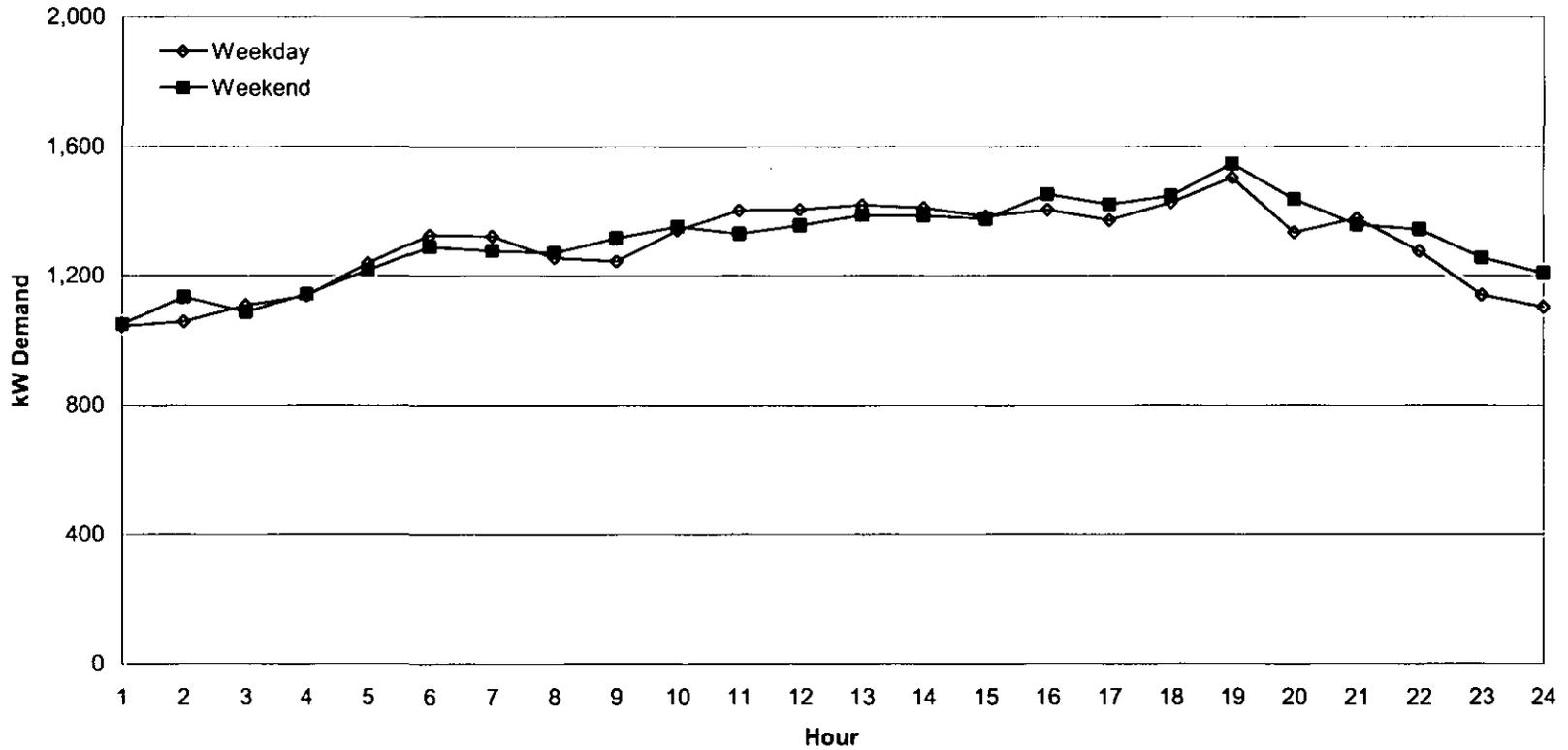
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Exhibit 9.1 a
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 January 2005



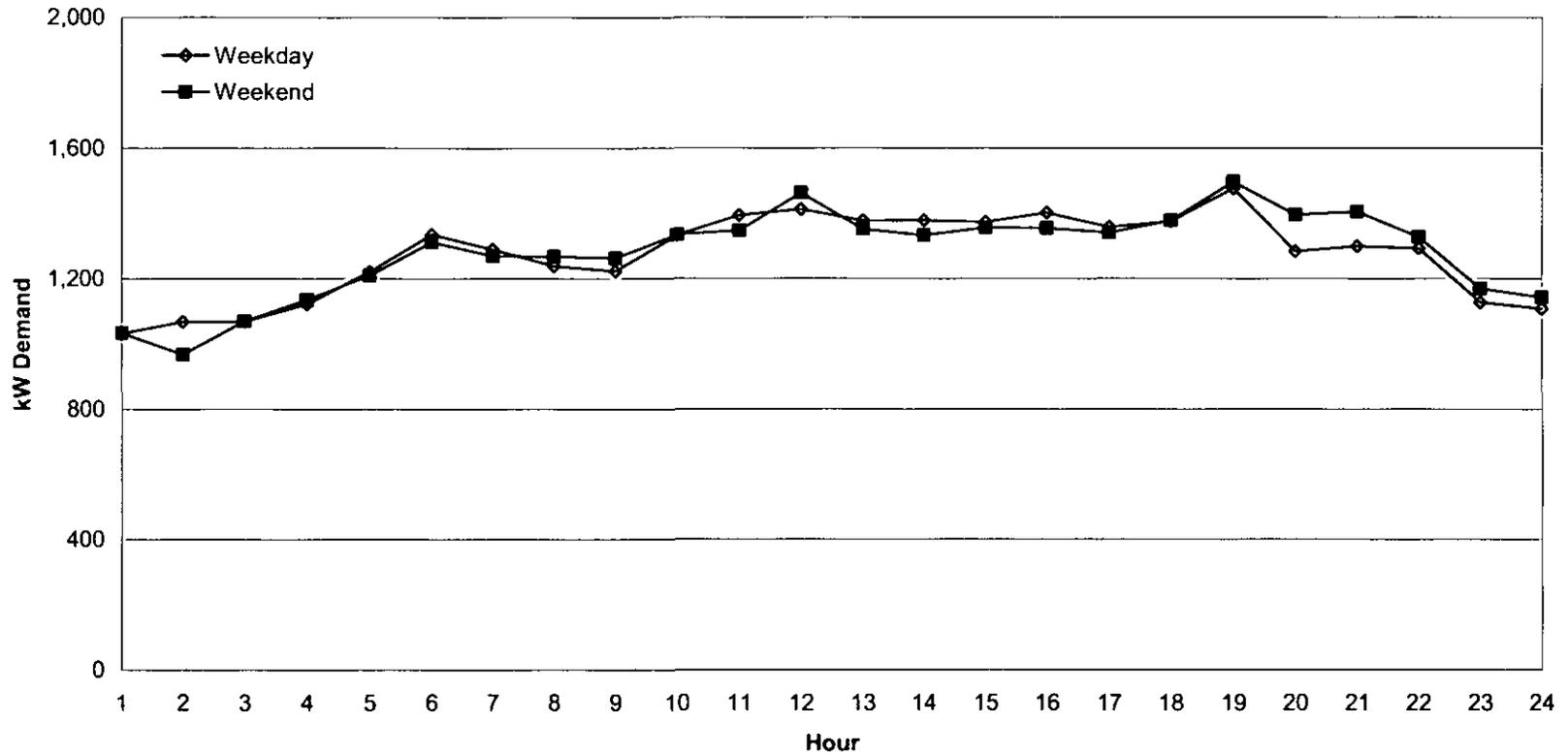
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Exhibit 9.1 b
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 February 2005



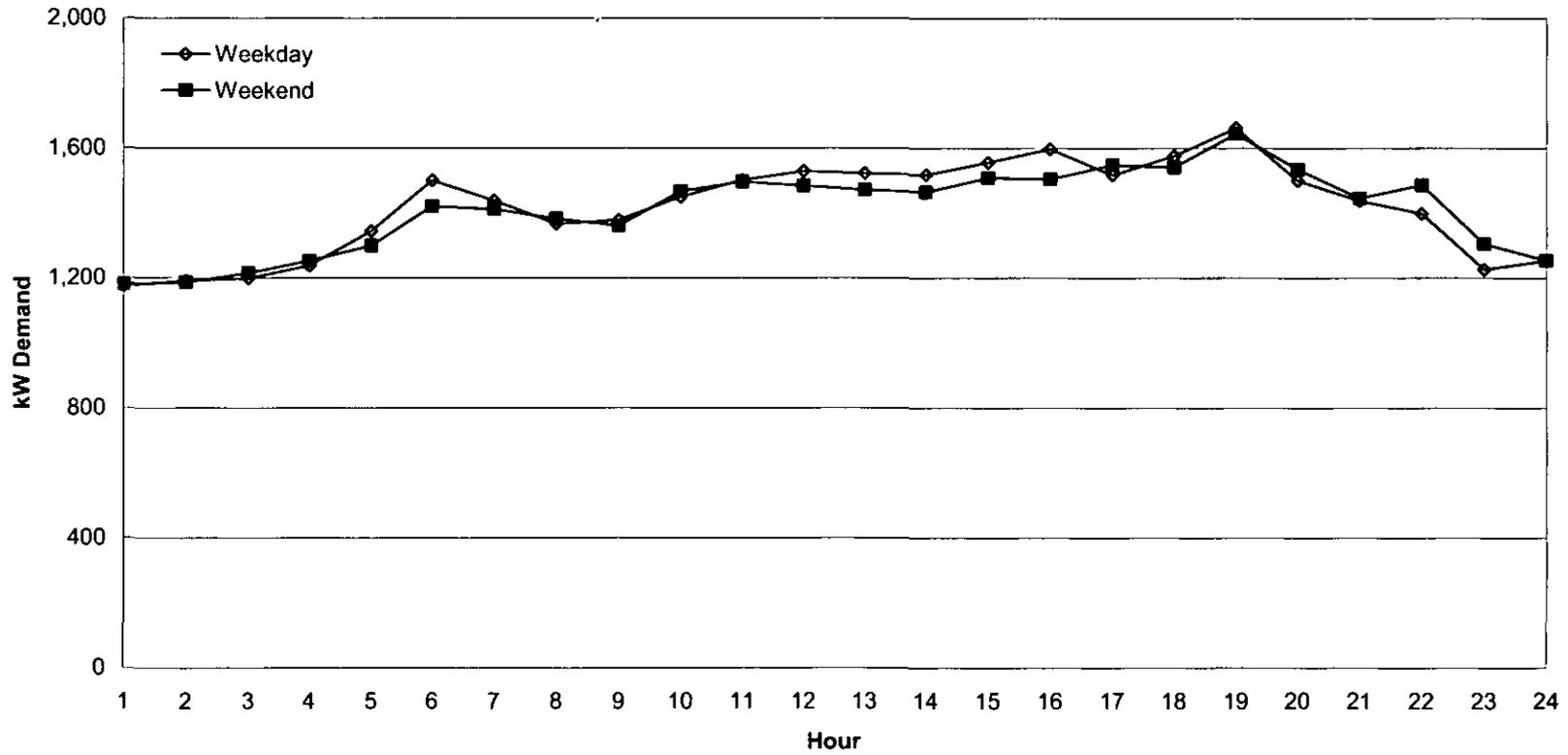
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Exhibit 9.1 c
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 March 2005



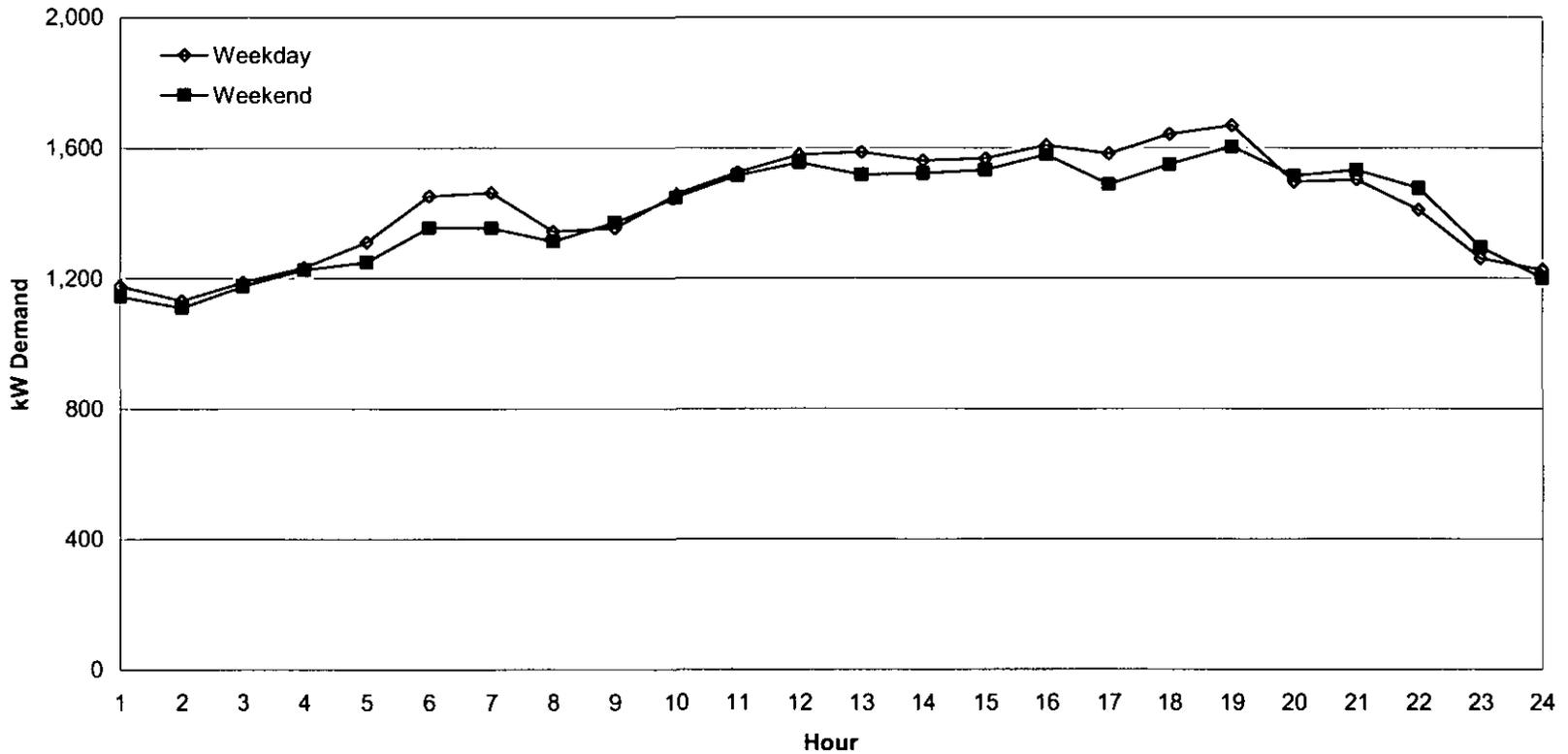
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Exhibit 9.1 d
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 April 2005



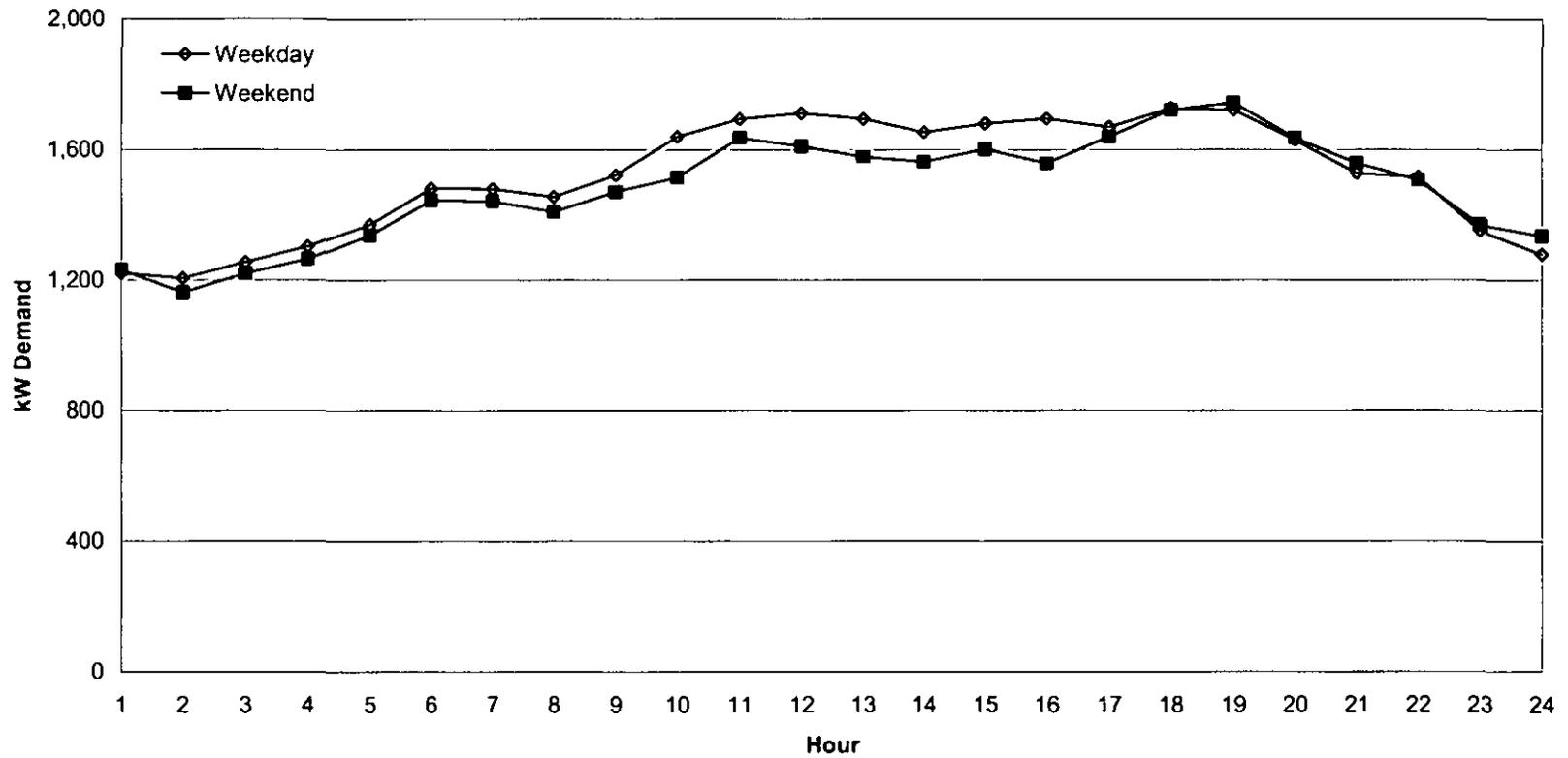
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Exhibit 9.1 e
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 May 2005



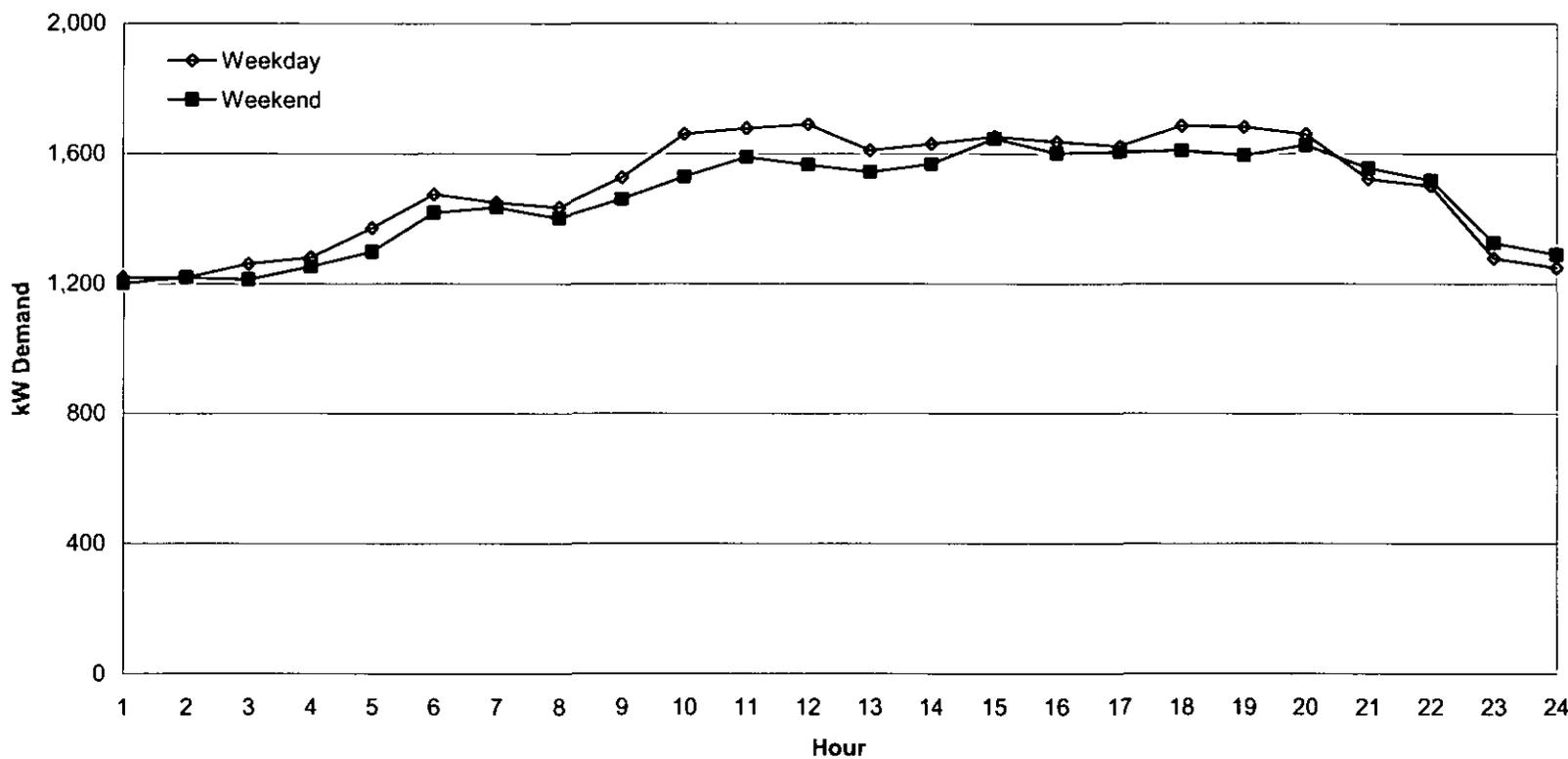
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Exhibit 9.1 f
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 June 2005



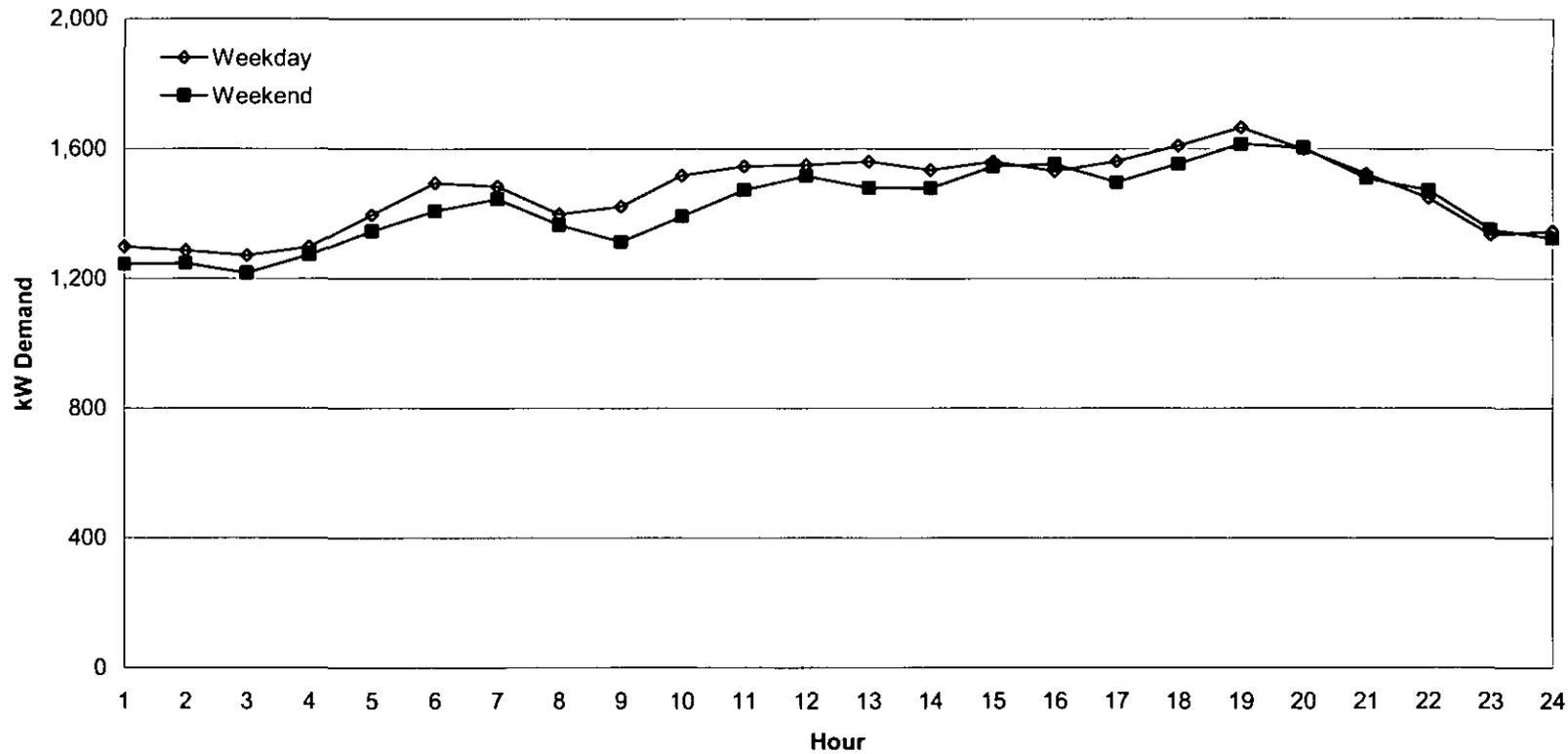
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Exhibit 9.1 g
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 July 2005



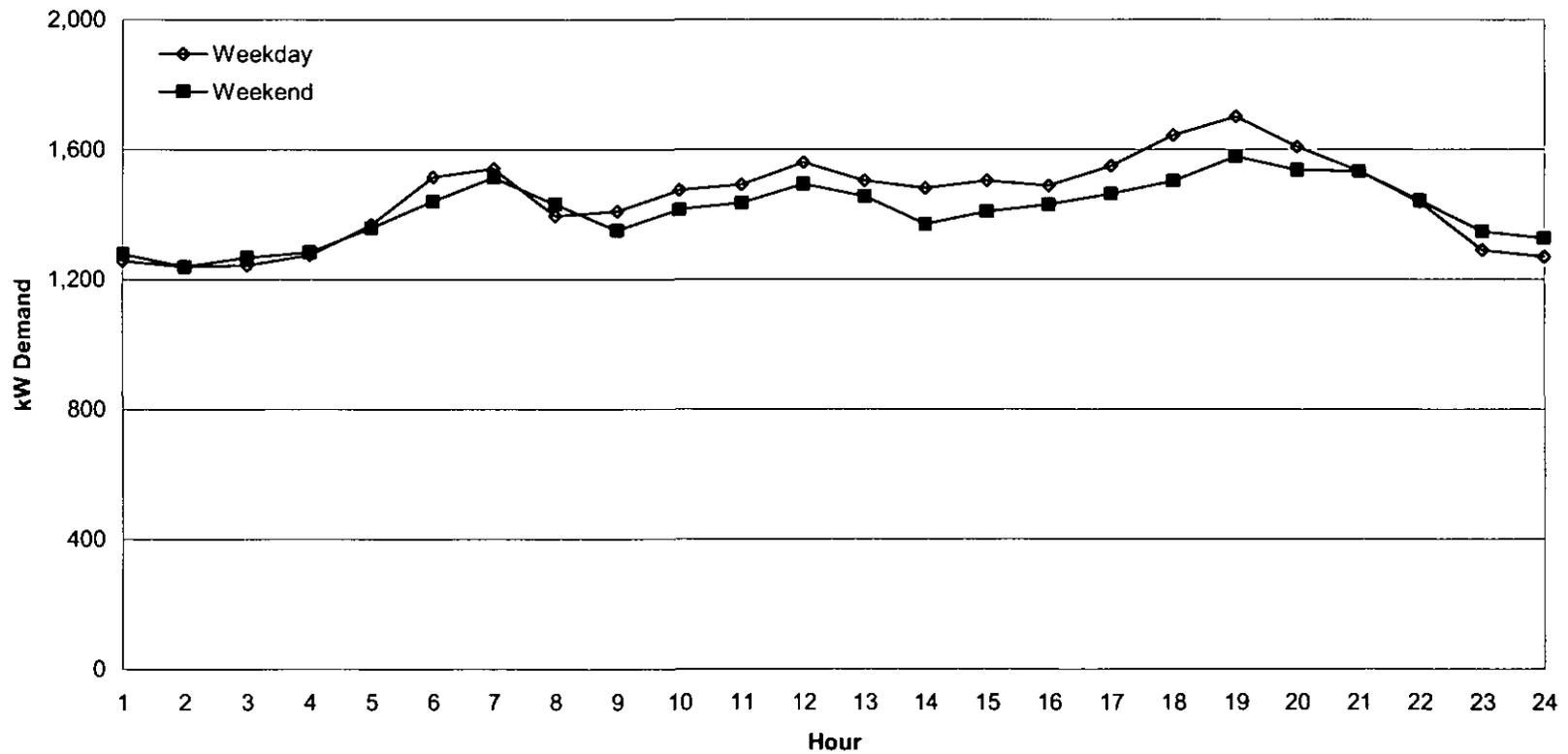
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Exhibit 9.1 h
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 August 2005



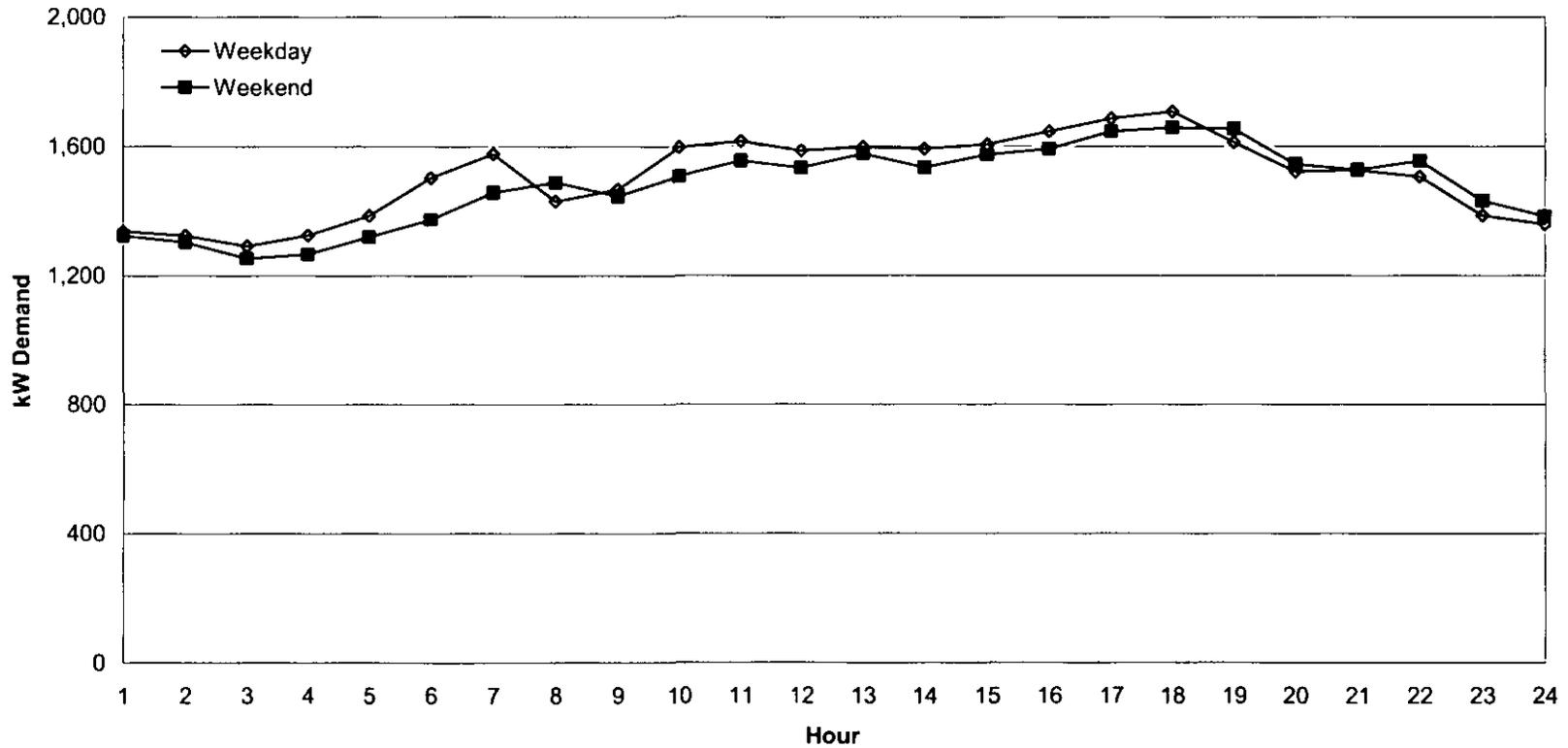
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Exhibit 9.1 i
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 September 2005



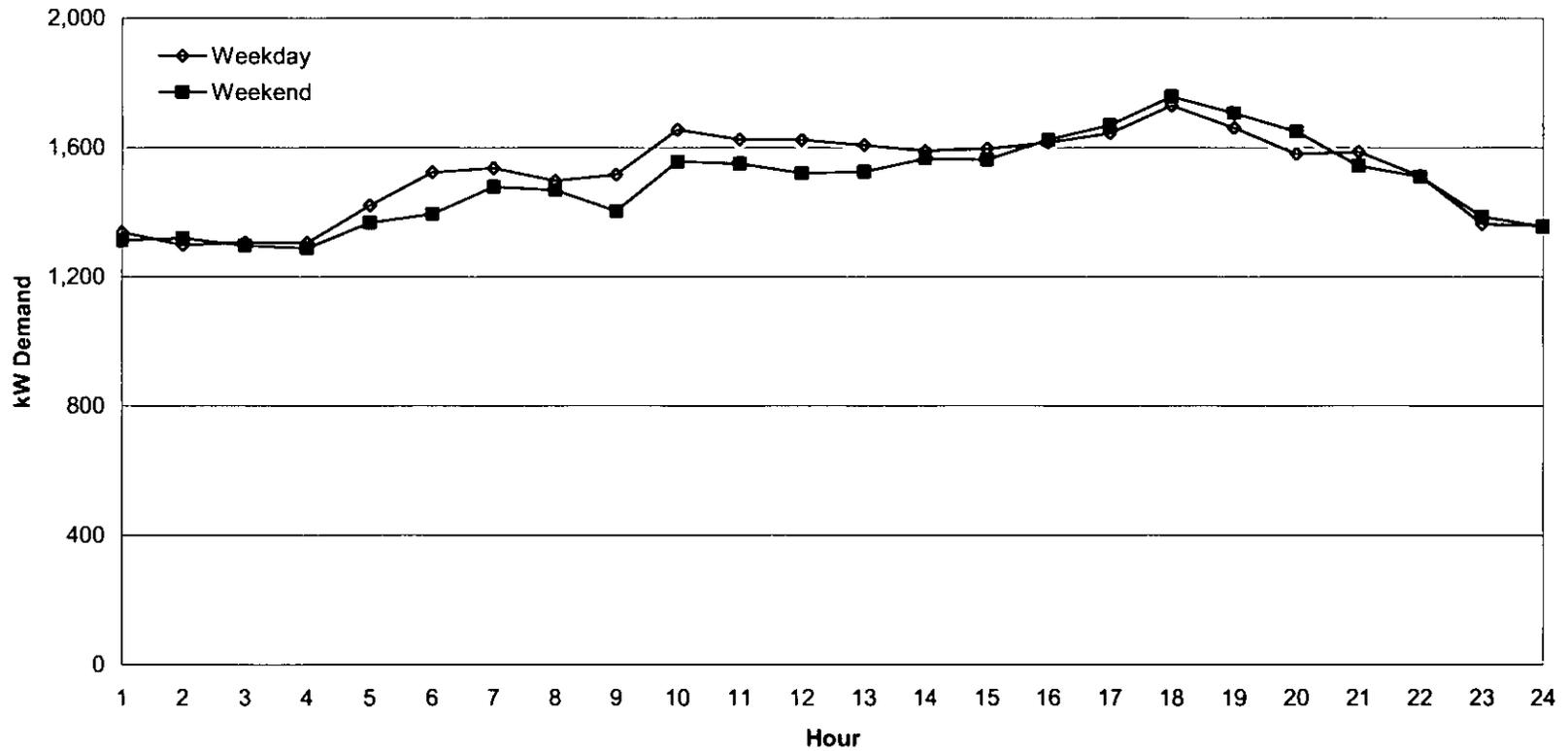
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Exhibit 9.1 j
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 October 2005



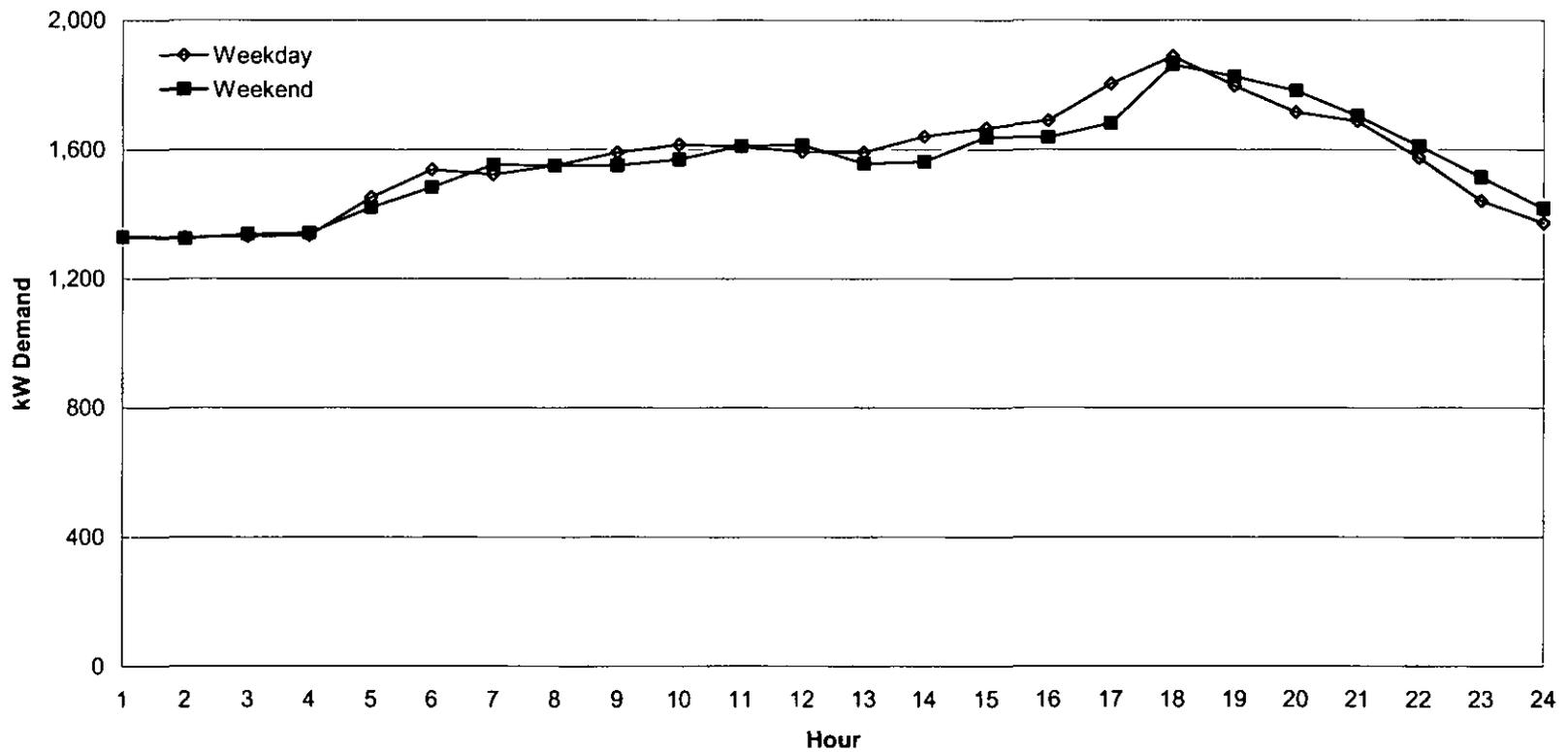
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Exhibit 9.1 k
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 November 2005



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Exhibit 9.1 I
 AVERAGE WEEKDAY vs AVERAGE WEEKEND, Normalized at the Gross Level
 Schedule P: Large Power Service
 December 2005



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10. SCHEDULE F: PUBLIC STREET LIGHTING SERVICE

Public street lighting service accounts for the smallest amount of sales on Lana'i. During 2005, three Schedule F customers accounted for 114 MWh of sales, or 0.4% of the total.

The public street lighting load profile was constructed using recorded billing data and the monthly average times for sunrise and sunset for Lana'i City. The times of sunrise and sunset for each day of the year were obtained from the United States Naval Observatory. The averages for each month are shown in Table 10.1. The allocation of monthly kWh to hours of the day is shown in Table 10.2. The same photoelectric lighting control specifications that were used in the Maui Electric Company's 1983 Load Research Study were used in determining the on and off times for the street lights.

The Schedule F load data revealed these patterns and characteristics:

1. During 2005, public street lighting customers' average monthly kWh ranged from a low of 2,651 in January to a high of 3,682 in February.
2. In constructing the class load it was assumed that the entire class had identical load profiles; therefore, the class peak demand per customer and the non-coincident demand per customer were equal. The hourly load data for the class peak day of each month is provided in Table 10.4.
3. Shown in Table 10.6, Schedule F's contribution to the system peak ranged from zero in March and June to 0.04 MW in February.
4. Schedule F does not contribute to the day peak.
5. Table 10.7 shows that 82% of total consumption occurred during the off-peak period, 13% occurred during the priority peak period, and 6% occurred during the on-peak period. (Totals add to 101% due to rounding.)
6. Hourly load data at the system gross and the sales levels for the average weekday and weekend of each month are presented in Tables 10.8 through 10.11. The gross weekend and weekday loads are graphed in Exhibits 10.1a through 10.11. Manually generating the load profile resulted in all the days of a given month having nearly identical load shapes.

Table 10.1
ESTIMATED STREET LIGHTING HOURS
Schedule F: Public Street Lighting

Month	Mean Sunrise and Sunset Times ¹		Adjustment for Darkness Level (min) ²	Streetlight Turn Off and Turn On Times		Fraction of Time Streetlights Are On During the First and Last 15 Min Periods of the Day		Average Number of Lighting Hours Hours per Day
	Sunrise	Sunset		Turn Off	Turn On	First	Last	
January	7:06	18:08	0:25	6:41	18:33	11/15	12/15	12:08
February	6:57	18:25	0:25	6:32	18:50	2/15	10/15	11:42
March	6:35	18:37	0:25	6:10	19:02	9/15	13/15	11:08
April	6:08	18:46	0:25	5:43	19:11	13/15	4/15	10:32
May	5:50	18:58	0:25	5:25	19:23	10/15	7/15	10:02
June	5:47	19:09	0:25	5:22	19:34	7/15	11/15	9:48
July	5:55	19:10	0:25	5:30	19:35	0/15	10/15	9:55
August	6:06	18:55	0:25	5:41	19:20	11/15	10/15	10:21
September	6:15	18:29	0:25	5:50	18:54	5/15	6/15	10:56
October	6:23	18:03	0:25	5:58	18:28	13/15	2/15	11:30
November	6:38	17:47	0:25	6:13	18:12	13/15	3/15	12:01
December	6:56	17:50	0:25	6:31	18:15	1/15	0/15	12:16

¹ Arithmetic average of daily sunrise/sunset times for Lana'i City; derived from daily times provided by the United States Naval Observatory at http://aa.usno.navy.mil/cgi-bin/aa_rstablew.pl

² Subtracted from the time of sunrise, and added to the time of sunset. Based on the Ripley Model 7051-250V photoelectric lighting control specification used for analysis in the Maui ELECTRIC COMPANY, Ltd.'s 1983 Load Research Study.

Table 10.2
SIMULATED LOAD DATA
Schedule F: Public Street Lighting

<u>Month</u>	<u>kWh</u>	<u>Full Hours On</u>	<u>Fractional Hours On</u>	<u>Days per Month</u>	<u>15 Minute Intervals per Month</u>	<u>Intervals On</u>	<u>kW per Hour</u>
January	7,952	12	0.13	31	2,976	1,505	21
February	11,047	11	0.70	28	2,688	1,310	34
March	9,213	11	0.13	31	2,976	1,381	27
April	8,752	10	0.53	30	2,880	1,264	28
May	10,964	10	0.03	31	2,976	1,244	35
June	8,952	9	0.80	30	2,880	1,176	30
July	8,984	9	0.92	31	2,976	1,230	29
August	10,655	10	0.35	31	2,976	1,283	33
September	9,502	10	0.93	30	2,880	1,312	29
October	8,495	11	0.50	31	2,976	1,426	24
November	10,274	12	0.02	30	2,880	1,442	28
December	8,774	12	0.27	31	2,976	1,521	23
Total kWh	113,564						
Total hours	4,023						
kW per hour	28						

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Table 10.3
SUMMARY OF MONTHLY LOAD STATISTICS AT THE SALES LEVEL
Schedule F: Public Street Lighting

Average per customer															
Month	Customers	kWh	% kWh		Class Peak Date - Hour	kW Demand at Time of			Maximum Non-coincident Demand	Diversity Factor	Load Factor Based on Coincident Demand	Load Factor Based on Non-coincident Demand	Coincidence Factor at Time of		
			On Peak	Off Peak		CLASS PEAK	SYSTEM PEAK	DAY PEAK					Class Peak	System Peak	Day Peak
A	B	C	D	E	F	G	H	I	J	K = (J/G)	L	M	N=(G/J)	O=(H/J)	P=(I/J)
January	3	2,651	20%	80%	CONSTRUCTED	7.0	0.0	0.0	7.0	100%	51%	51%	100%	0%	0%
February	3	3,682	19%	81%	LOAD	11.2	11.2	0.0	11.2	100%	44%	44%	100%	100%	0%
March	3	3,071	18%	82%		8.9	0.0	0.0	8.9	100%	46%	46%	100%	0%	0%
April	3	2,917	17%	83%	EACH DAY	9.2	7.5	0.0	9.2	100%	42%	42%	100%	82%	0%
May	3	3,655	16%	84%	HAS THE	11.8	7.2	0.0	11.8	100%	42%	42%	100%	62%	0%
June	3	2,984	15%	85%	SAME PEAK	10.1	0.0	0.0	10.1	100%	40%	40%	100%	0%	0%
July	3	2,995	14%	86%		9.7	0.0	0.0	9.7	100%	41%	41%	100%	0%	0%
August	3	3,552	16%	84%		11.1	7.4	0.0	11.1	100%	43%	43%	100%	67%	0%
September	3	3,167	19%	81%		9.7	0.0	0.0	9.7	100%	44%	44%	100%	0%	0%
October	3	2,832	22%	78%		7.9	4.2	0.0	7.9	100%	48%	48%	100%	53%	0%
November	3	3,425	23%	77%		9.5	7.6	0.0	9.5	100%	48%	48%	100%	80%	0%
December	3	2,925	22%	78%		7.7	5.8	0.0	7.7	100%	51%	51%	100%	75%	0%
Average	3	3,155	18%	82%		9.5	4.3	0.0	9.5	100%	45%	45%	100%	43%	0%

Notes:

- 1) kW Demand is constructed 60-minute integrated demand.
- 2) Customers = average number of customers on the system from January 1, 2005 to December 31, 2005 (not a sample).
- 3) At the times of the system peaks in March and June the streetlights had not yet come on.
- 4) Maximum non-coincident kW demand = (individual maximum demands, weighted by stratum).
- 5) Diversity factor = ratio of the weighted sum of the individual maximum demands of the members of the class to the maximum coincident demand of the class as a whole.
- 6) Load factor = ratio expressed in % of kWh / (peak demand x number of hours).
- 7) Coincidence factor = ratio expressed in % of the maximum demand of the class to the weighted sum of the individual maximum demands of the members of the class.

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Table 10.4
 HOURLY LOAD (kW) DATA FOR THE DAYS OF THE CLASS PEAKS
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	21	34	27	28	35	30	29	33	29	24	28	23
2	21	34	27	28	35	30	29	33	29	24	28	23
3	21	34	27	28	35	30	29	33	29	24	28	23
4	21	34	27	28	35	30	29	33	29	24	28	23
5	21	34	27	28	35	30	29	33	29	24	28	23
6	21	34	27	20	15	11	15	23	24	23	28	23
7	14	18	4	0	0	0	0	0	0	0	6	12
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	10	6	0	0	0	0	0	0	3	13	23	17
20	21	34	26	23	22	13	12	22	29	24	28	23
21	21	34	27	28	35	30	29	33	29	24	28	23
22	21	34	27	28	35	30	29	33	29	24	28	23
23	21	34	27	28	35	30	29	33	29	24	28	23
24	21	34	27	28	35	30	29	33	29	24	28	23
Average	11	16	12	12	15	12	12	14	13	11	14	12

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Table 10.5
 HOURLY LOAD (kW) DATA PER CUSTOMER FOR THE DAYS OF THE CLASS PEAKS
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand at the Sales Level

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
2	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
3	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
4	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
5	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
6	7.0	11.2	8.9	6.6	4.9	3.7	4.9	7.6	8.0	7.7	9.5	7.7
7	4.8	6.0	1.5	-	-	-	-	-	-	-	2.1	4.0
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	3.2	1.9	-	-	-	-	-	-	1.0	4.2	7.6	5.8
20	7.0	11.2	8.6	7.5	7.2	4.4	4.1	7.4	9.7	7.9	9.5	7.7
21	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
22	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
23	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
24	7.0	11.2	8.9	9.2	11.8	10.1	9.7	11.1	9.7	7.9	9.5	7.7
Average	3.6	5.5	4.1	4.1	4.9	4.1	4.0	4.8	4.4	3.8	4.8	3.9

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Table 10.6
 CLASS CONTRIBUTIONS TO THE SYSTEM AND DAYTIME PEAKS
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand at the Gross Level, Normalized

Month	SYSTEM PEAK		DAYTIME PEAK	
	CLASS kW	% OF SYSTEM	CLASS kW	% OF SYSTEM
January	12	0%	0	0%
February	43	1%	0	0%
March	0	0%	0	0%
April	29	1%	0	0%
May	23	0%	0	0%
June	0	0%	0	0%
July	16	0%	0	0%
August	28	1%	0	0%
September	4	0%	0	0%
October	16	0%	0	0%
November	31	1%	0	0%
December	23	0%	0	0%
Average	19	0%	0	0%

Note: The annual instantaneous system peak of 5.2 MW occurred on December 27, 2005 @ 18:35

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Table 10.7
CLASS kWh LOAD BY TIME-OF-USE AT SALES LEVEL
 Schedule F: Public Street Lighting

Month	kWh Load by Time-of-Use				Percent kWh Load by Time-of-Use			
	Priority Peak	On-peak	Off-peak	Total	Priority Peak	On-peak	Off-peak	Total
January	1,036	570	6,346	7,952	13%	7%	80%	100%
February	1,388	658	9,001	11,047	13%	6%	81%	100%
March	1,155	472	7,586	9,213	13%	5%	82%	100%
April	1,057	453	7,243	8,752	12%	5%	83%	100%
May	1,197	570	9,197	10,964	11%	5%	84%	100%
June	917	393	7,643	8,952	10%	4%	85%	100%
July	828	455	7,701	8,984	9%	5%	86%	100%
August	1,218	498	8,939	10,655	11%	5%	84%	100%
September	1,278	548	7,677	9,502	13%	6%	81%	100%
October	1,268	604	6,624	8,495	15%	7%	78%	100%
November	1,596	798	7,880	10,274	16%	8%	77%	100%
December	1,332	635	6,807	8,774	15%	7%	78%	100%
Total	14,268	6,653	92,643	113,564				
Percent	13%	6%	82%	100%				

Note: Normalized sales from constructed estimates

Time-of-Use Definitions:
Priority Peak: 5 pm - 9 pm, Monday through Friday
On-Peak: 7 am - 5 pm, Monday through Friday 7 am - 9 pm, Saturday and Sunday
Off-Peak: 9 pm - 7 am, Daily

Table 10.8
 AVERAGE WEEKDAY - NORMALIZED AT THE GROSS LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	21	34	27	28	35	29	29	36	29	25	33	25
2	23	35	29	29	35	30	30	37	29	26	33	25
3	23	38	30	30	38	32	32	37	30	26	33	26
4	24	39	31	31	40	34	34	38	31	27	33	26
5	26	43	34	34	43	36	36	42	33	28	36	28
6	27	44	37	27	20	14	19	30	30	29	36	28
7	17	22	6	0	0	0	0	0	0	0	8	14
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	10	6	0	0	0	0	0	0	3	14	26	19
20	20	32	25	23	22	13	13	25	31	24	31	25
21	21	34	27	27	36	29	29	36	30	25	32	25
22	20	32	27	27	35	30	30	35	30	24	31	24
23	19	31	25	25	33	28	27	34	29	24	30	24
24	21	33	27	28	35	29	29	35	30	25	32	24
Average	11	18	13	13	15	13	13	16	14	12	16	13

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Table 10.9
 AVERAGE WEEKDAY - NORMALIZED AT THE SALES LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	21	34	27	28	35	30	29	33	29	24	28	23
2	21	34	27	28	35	30	29	33	29	24	28	23
3	21	34	27	28	35	30	29	33	29	24	28	23
4	21	34	27	28	35	30	29	33	29	24	28	23
5	21	34	27	28	35	30	29	33	29	24	28	23
6	21	34	27	20	15	11	15	23	24	23	28	23
7	14	18	4	0	0	0	0	0	0	0	6	12
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	10	6	0	0	0	0	0	0	3	13	23	17
20	21	34	26	23	22	13	12	22	29	24	28	23
21	21	34	27	28	35	30	29	33	29	24	28	23
22	21	34	27	28	35	30	29	33	29	24	28	23
23	21	34	27	28	35	30	29	33	29	24	28	23
24	21	34	27	28	35	30	29	33	29	24	28	23
Average	11	16	12	12	15	12	12	14	13	11	14	12

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Table 10.10
 AVERAGE WEEKEND - NORMALIZED AT THE GROSS LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	21	33	27	27	34	29	29	34	29	25	32	25
2	23	37	26	29	34	28	30	36	29	25	33	25
3	22	37	30	30	38	31	31	36	30	25	33	26
4	24	39	32	31	39	32	33	37	31	25	33	26
5	26	42	34	33	41	35	34	40	32	27	34	28
6	26	43	36	25	18	14	19	28	28	26	33	27
7	17	21	5	0	0	0	0	0	0	0	7	14
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	10	6	0	0	0	0	0	0	3	14	26	20
20	21	35	27	24	22	13	13	25	30	24	32	26
21	22	34	29	28	37	30	30	35	31	24	31	26
22	21	35	28	29	37	30	30	35	29	25	31	25
23	19	34	26	27	34	28	27	33	28	24	30	25
24	21	35	28	28	34	30	29	35	29	25	32	25
Average	11	18	14	13	15	12	13	16	14	12	16	13

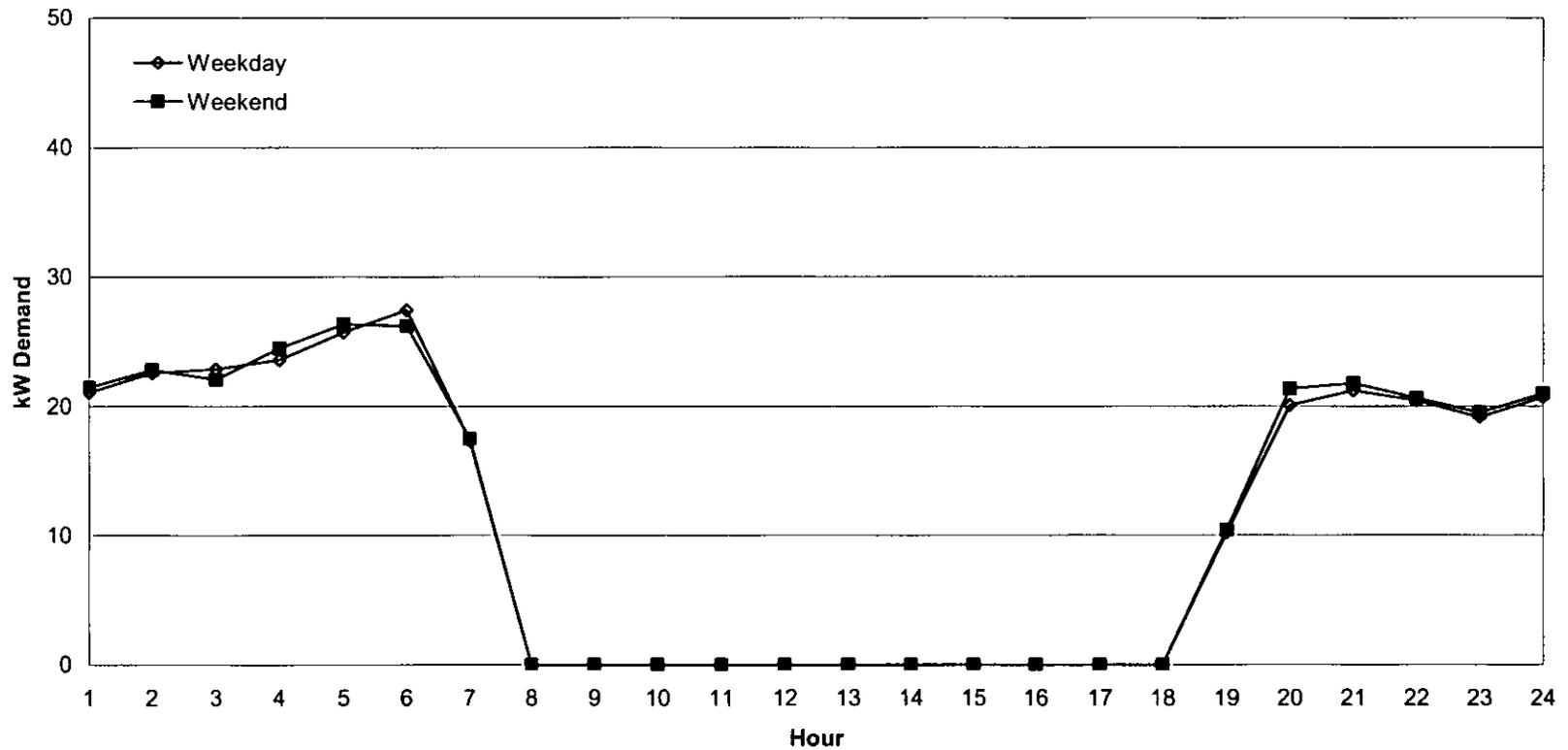
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Table 10.11
 AVERAGE WEEKEND - NORMALIZED AT THE SALES LEVEL
 Schedule F: Public Street Lighting
 60-Minute Integrated kW Demand

<u>Hour</u>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
1	21	34	27	28	35	30	29	33	29	24	28	23
2	21	34	27	28	35	30	29	33	29	24	28	23
3	21	34	27	28	35	30	29	33	29	24	28	23
4	21	34	27	28	35	30	29	33	29	24	28	23
5	21	34	27	28	35	30	29	33	29	24	28	23
6	21	34	27	20	15	11	15	23	24	23	28	23
7	14	18	4	0	0	0	0	0	0	0	6	12
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	10	6	0	0	0	0	0	0	3	13	23	17
20	21	34	26	23	22	13	12	22	29	24	28	23
21	21	34	27	28	35	30	29	33	29	24	28	23
22	21	34	27	28	35	30	29	33	29	24	28	23
23	21	34	27	28	35	30	29	33	29	24	28	23
24	21	34	27	28	35	30	29	33	29	24	28	23
Average	11	16	12	12	15	12	12	14	13	11	14	12

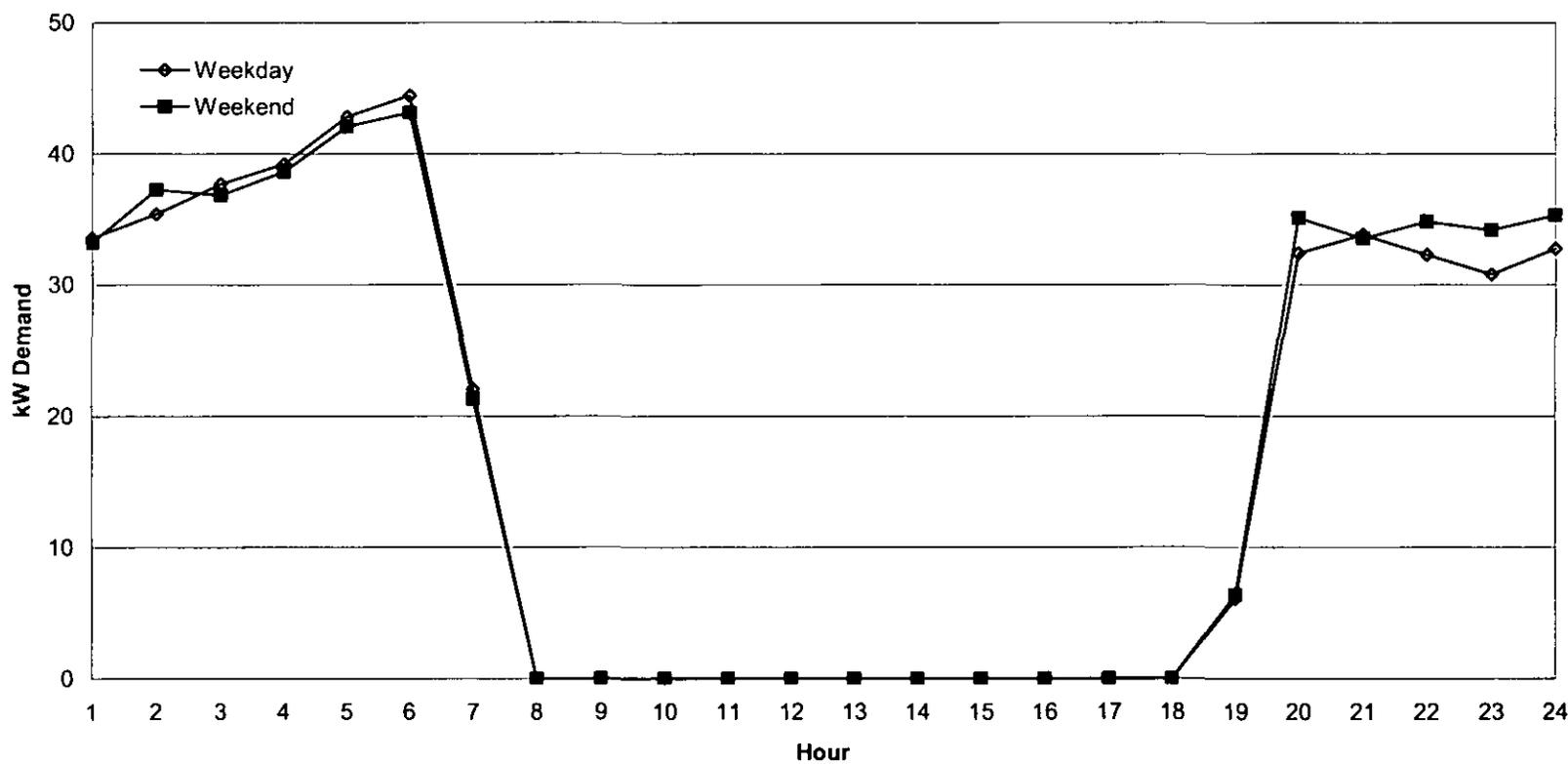
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Exhibit 10.1 a
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 January 2005



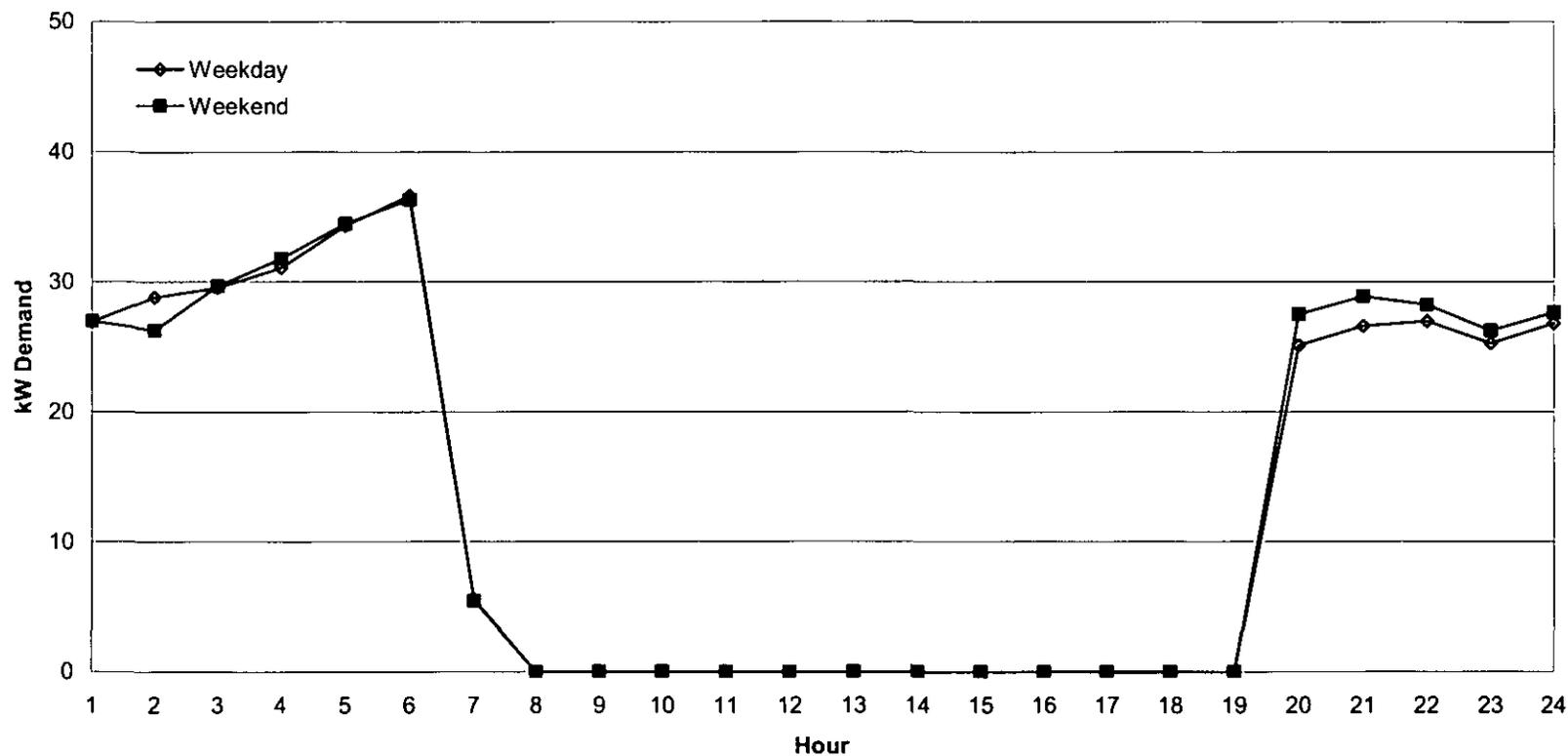
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Exhibit 10.1 b
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 February 2005



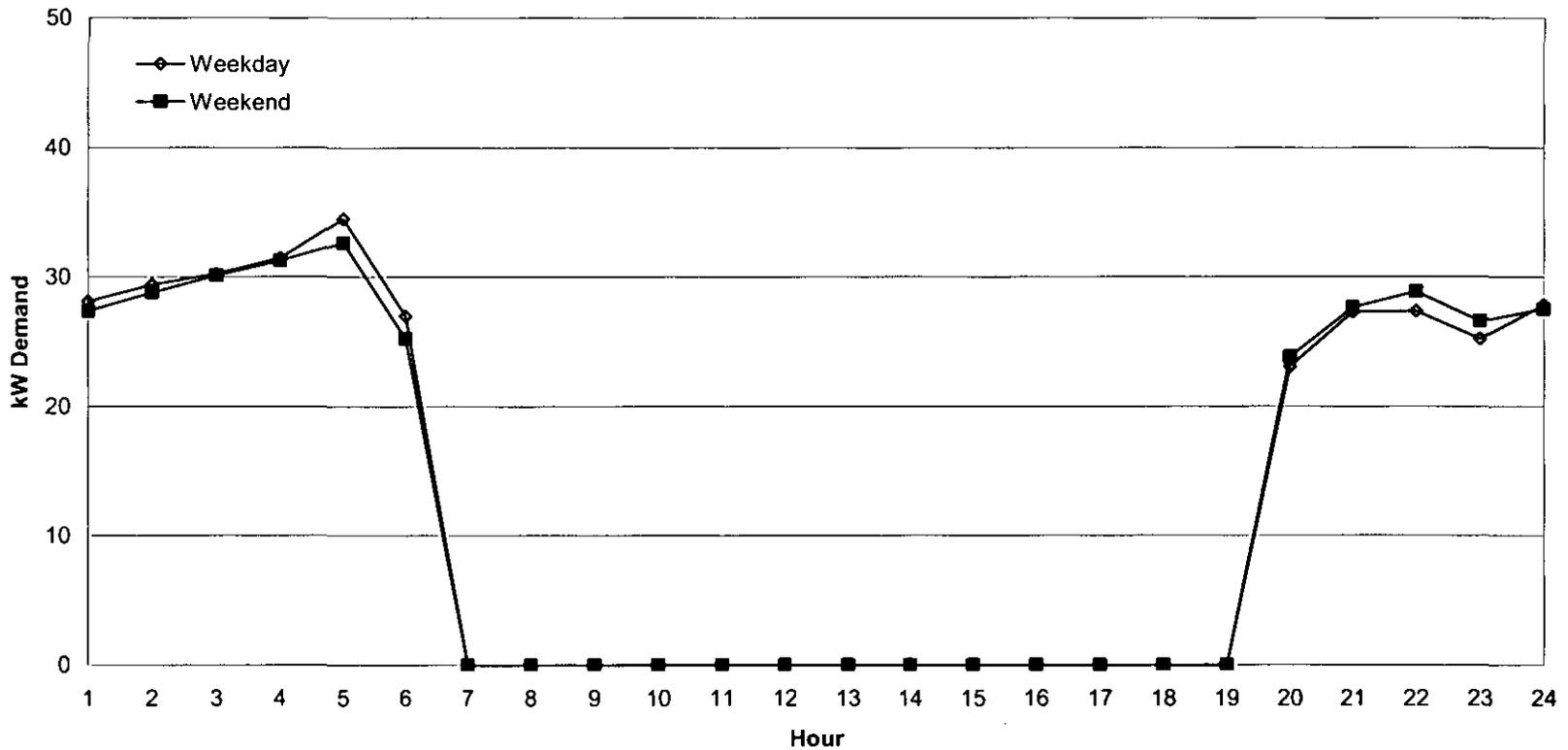
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Exhibit 10.1 c
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 March 2005



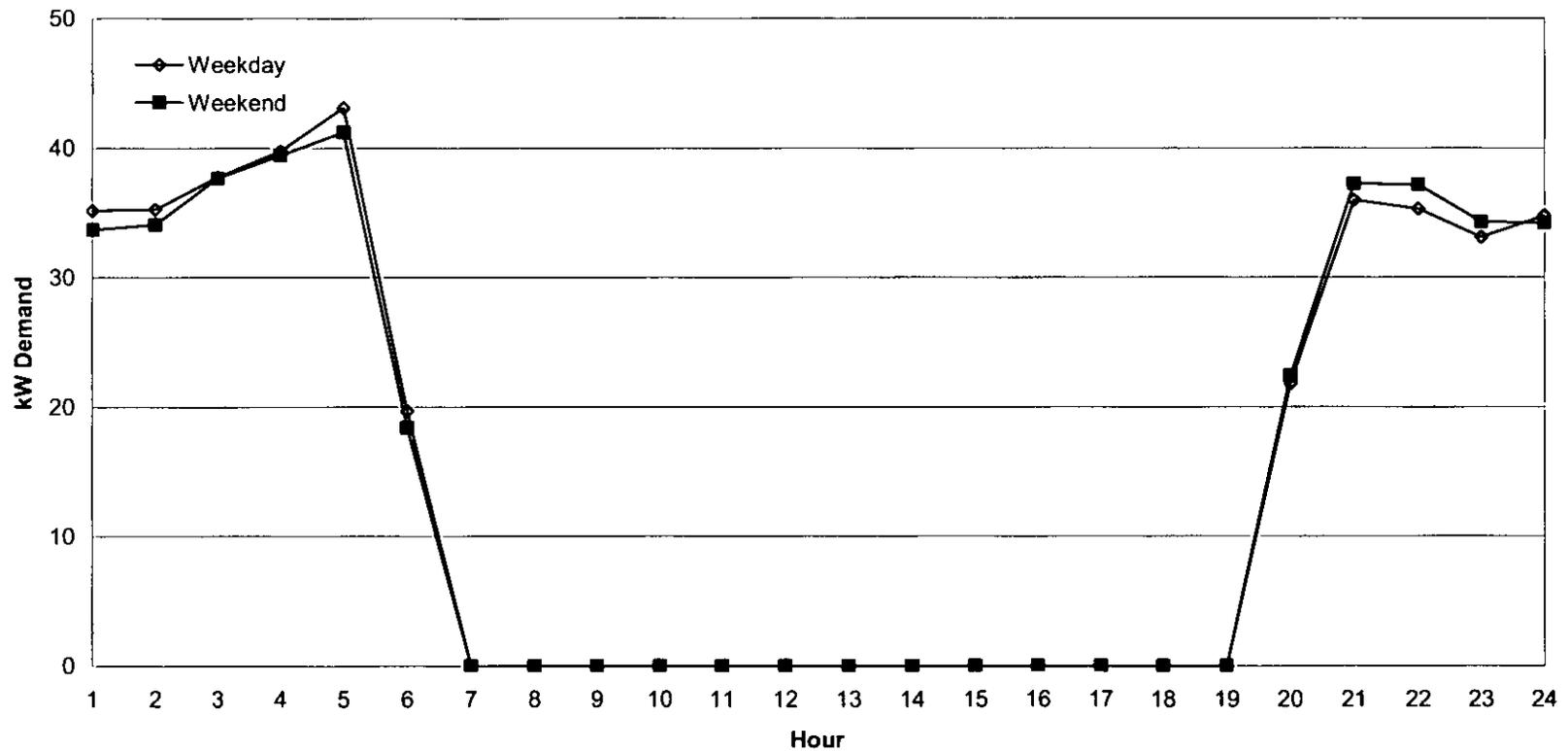
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Exhibit 10.1 d
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 April 2005



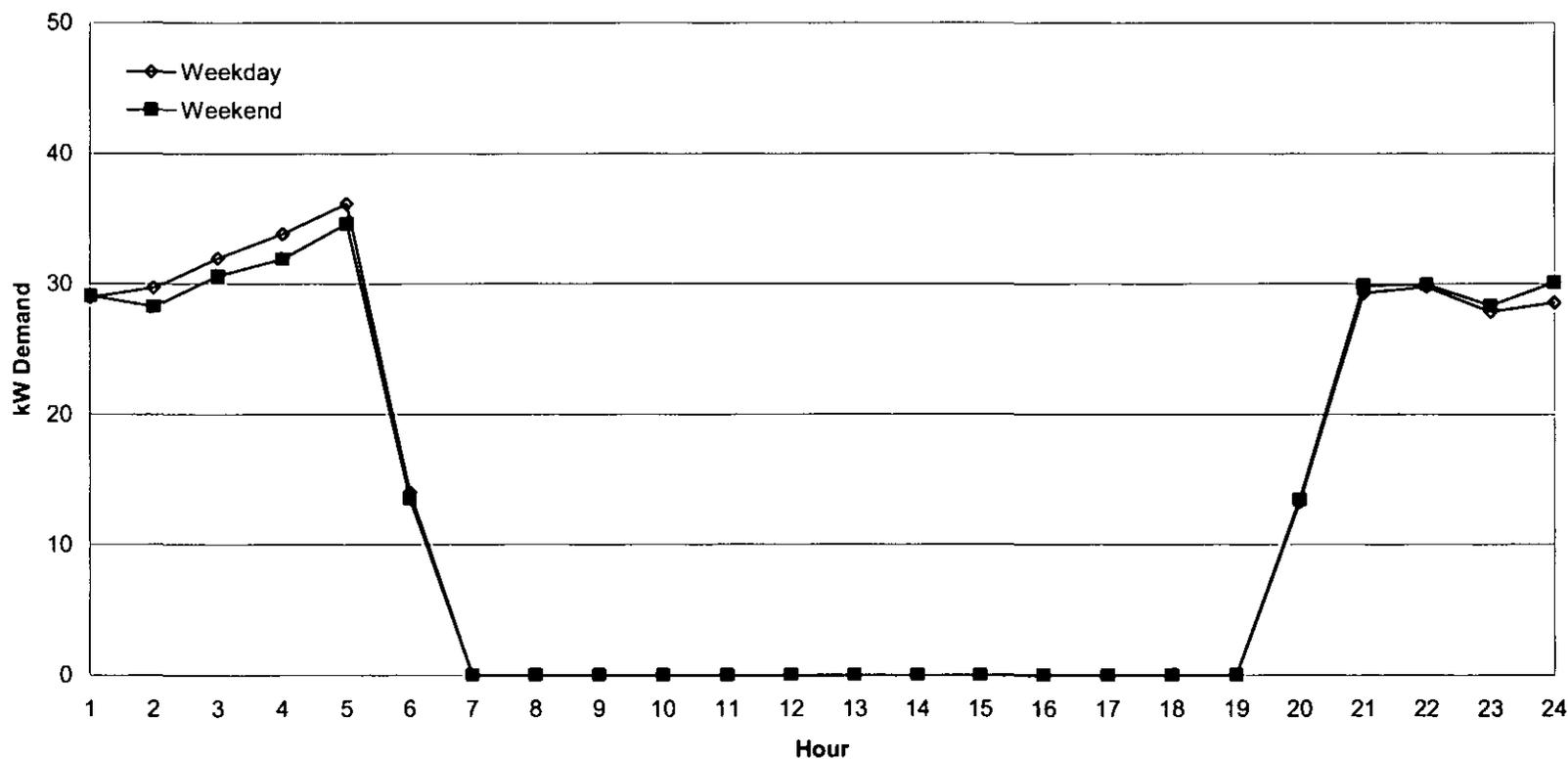
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Exhibit 10.1 e
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 May 2005



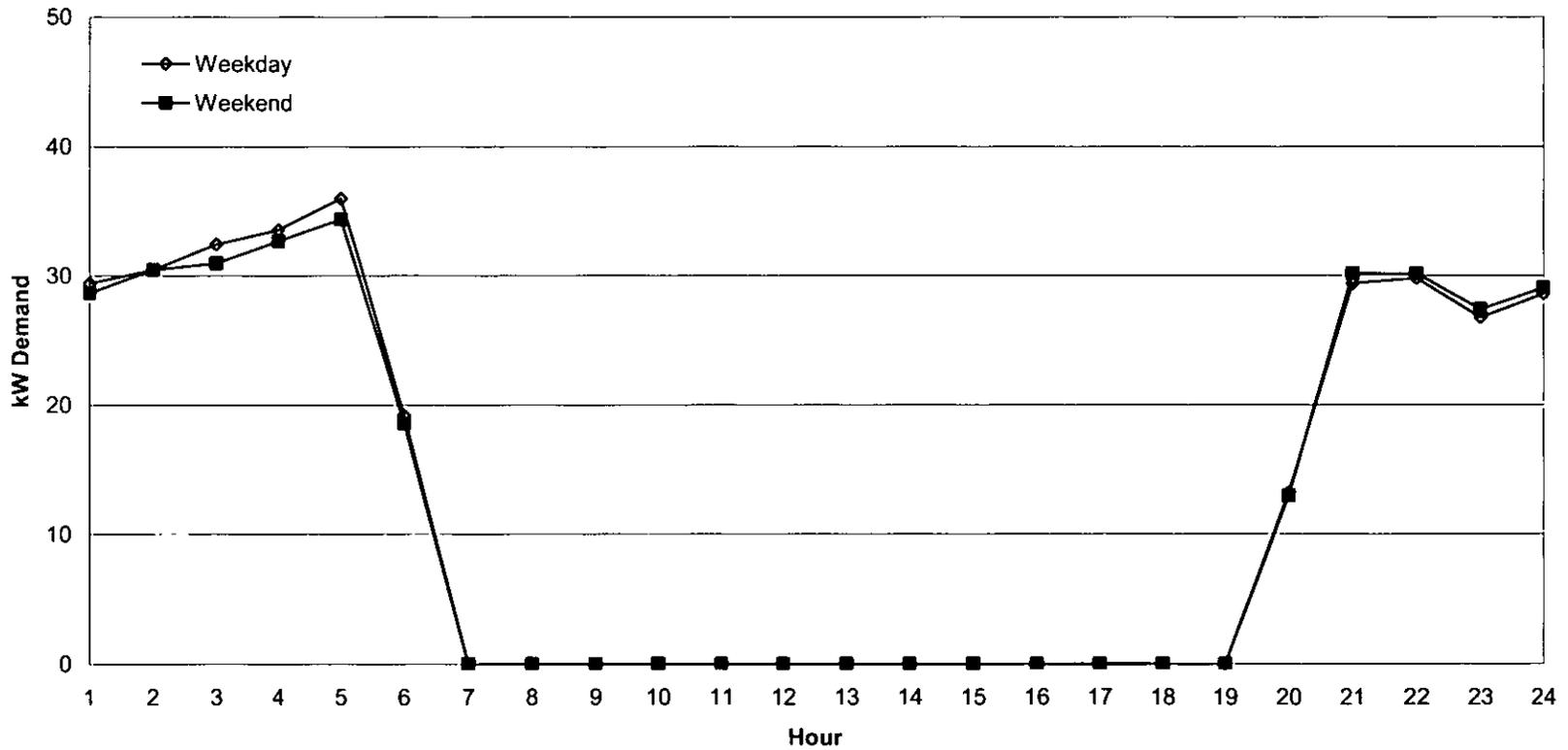
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Exhibit 10.1 f
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 June 2005



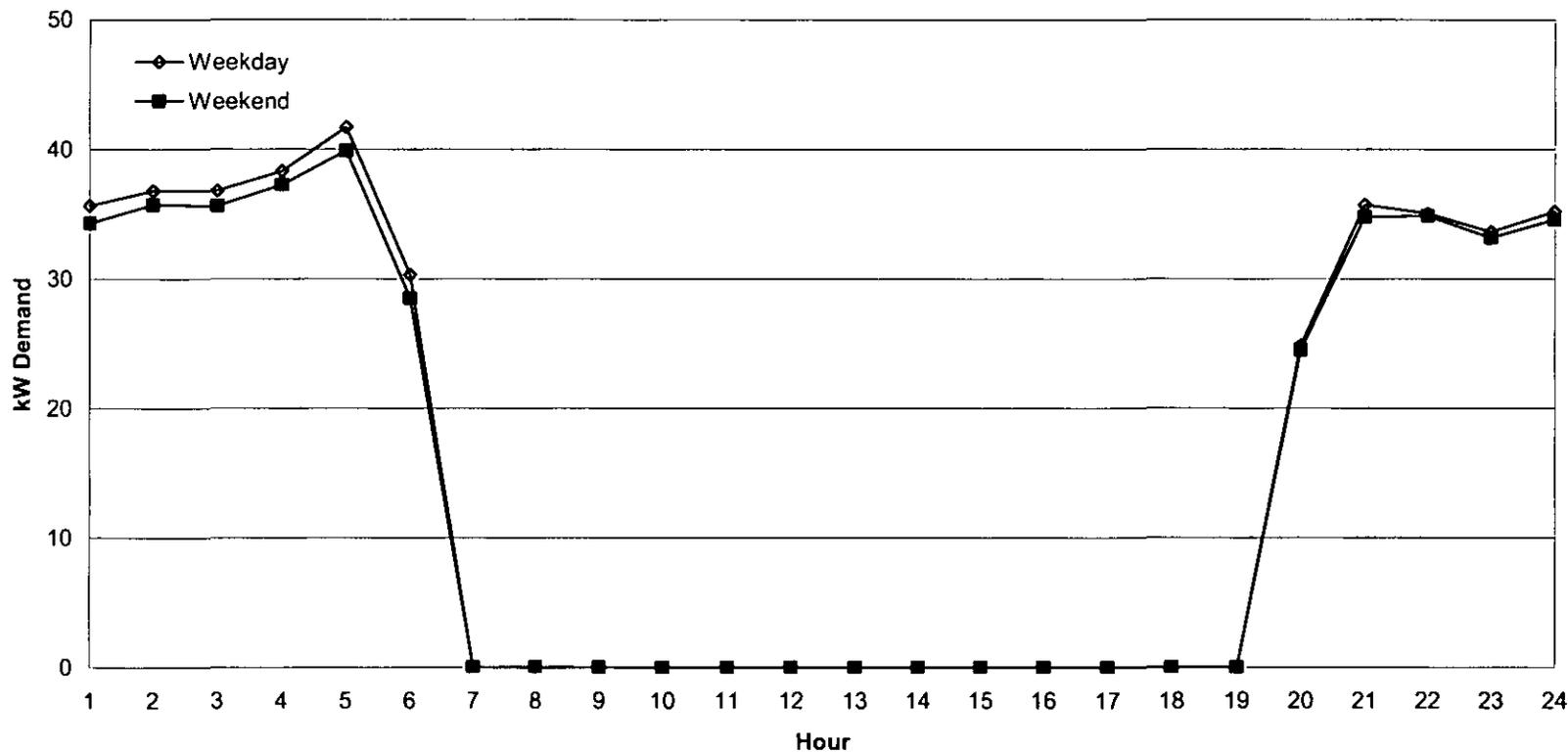
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Exhibit 10.1 g
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 July 2005



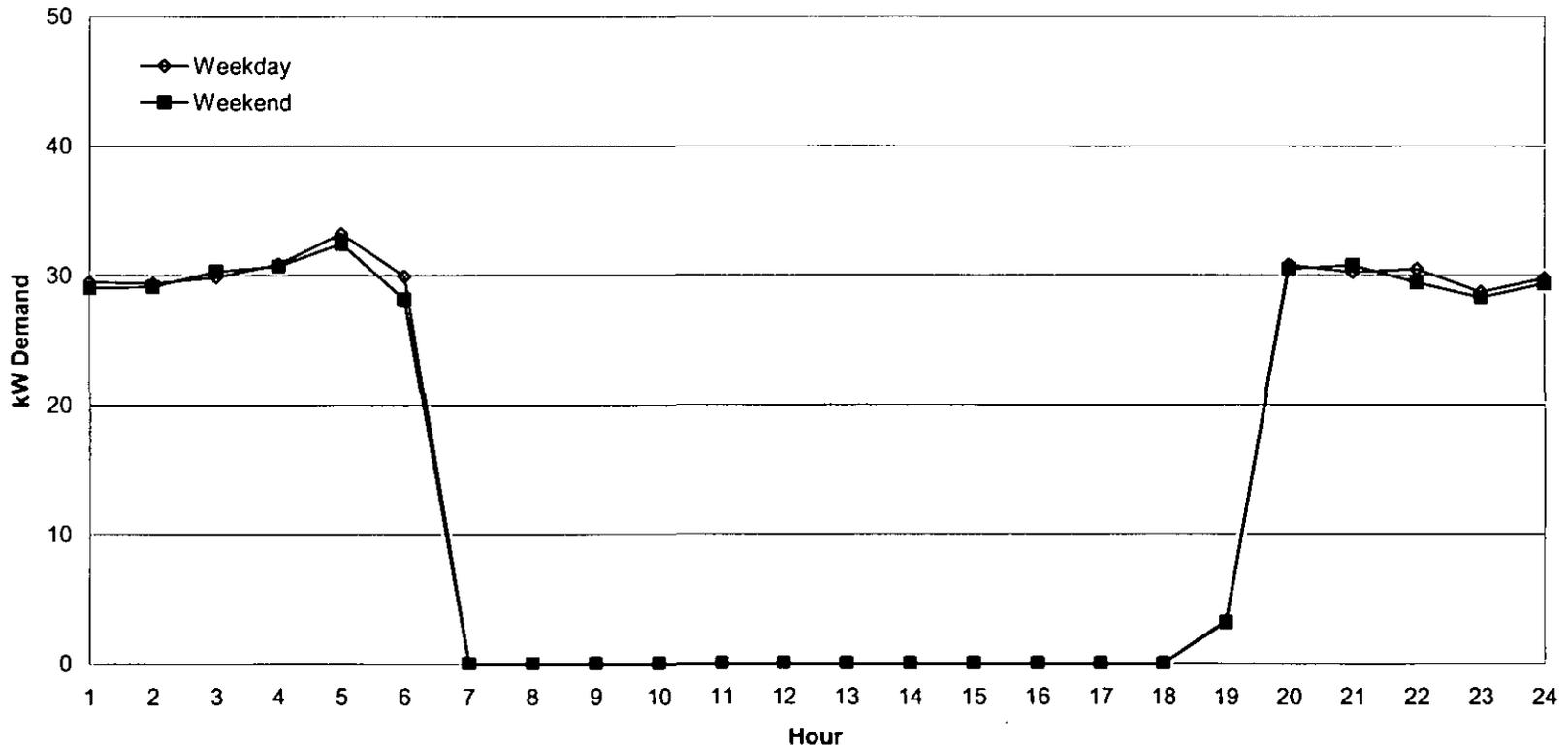
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Exhibit 10.1 h
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 August 2005



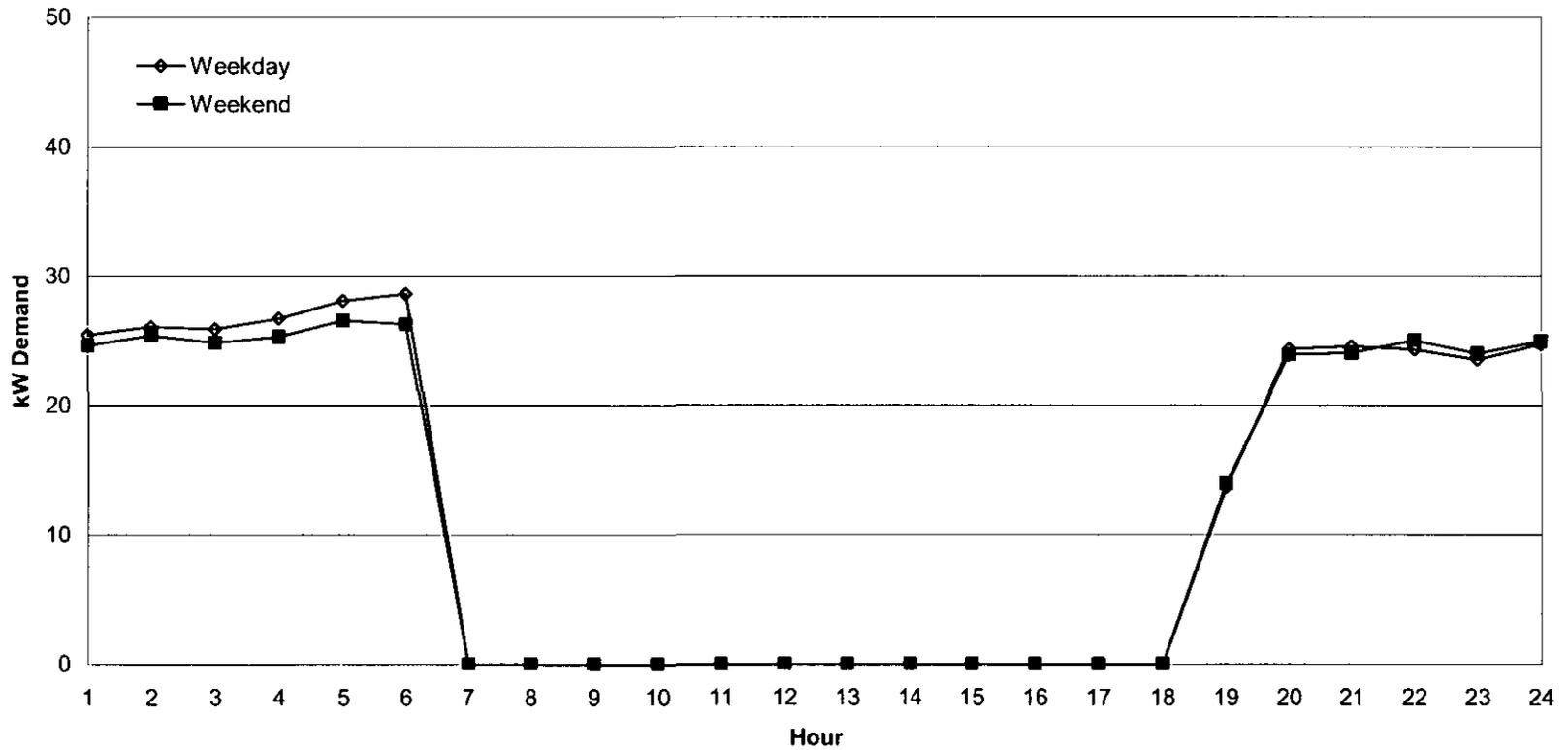
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Exhibit 10.1 i
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 September 2005



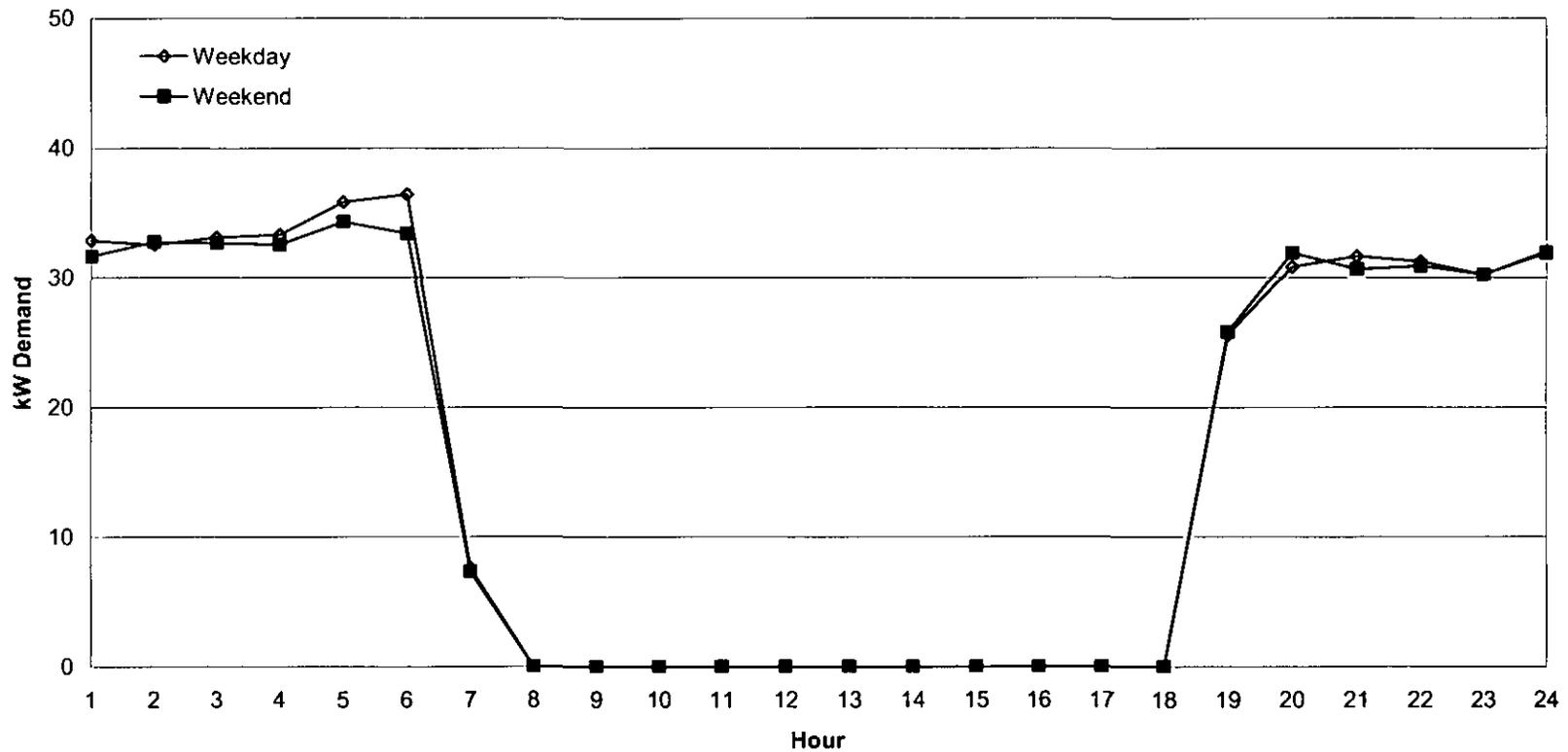
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Exhibit 10.1 j
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 October 2005



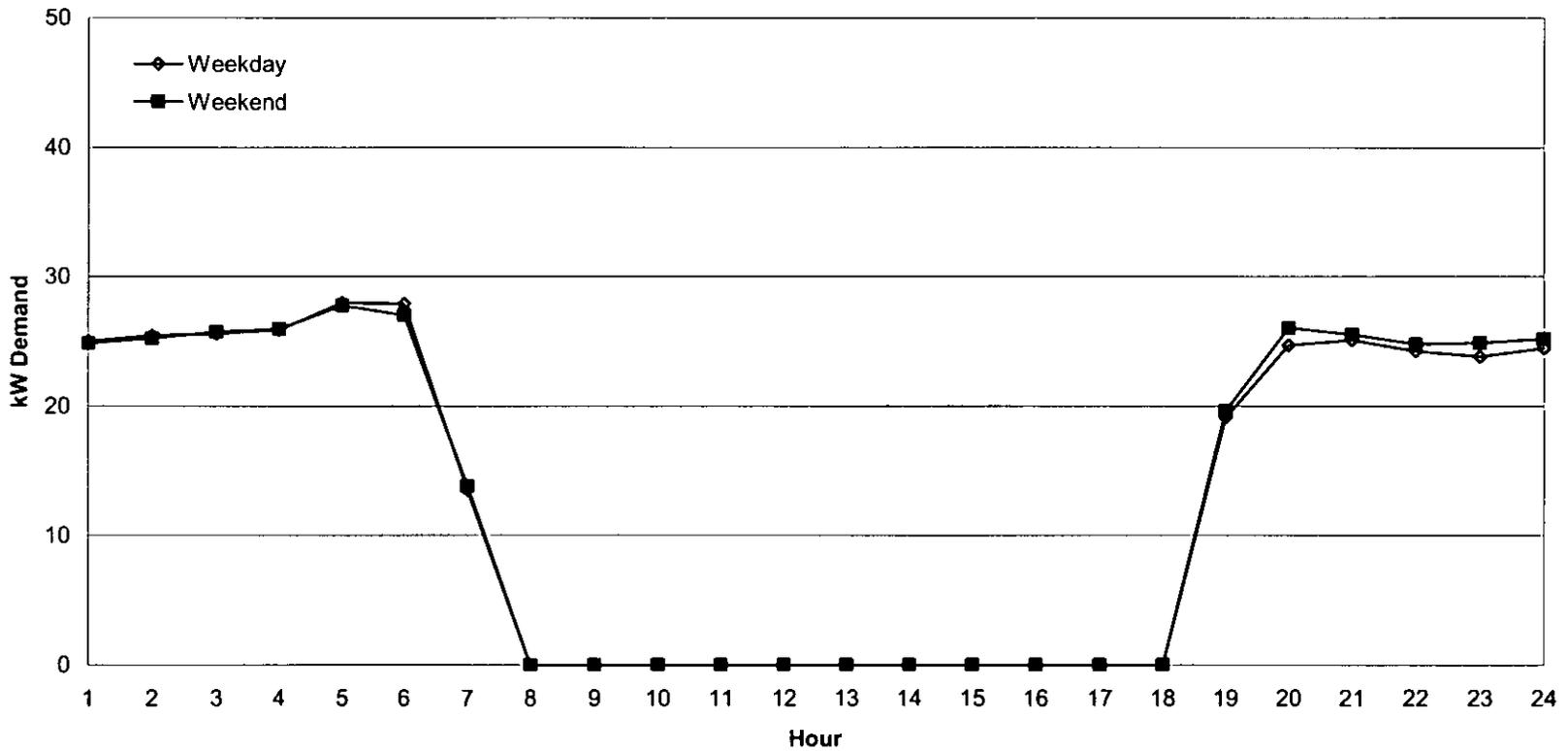
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Exhibit 10.1 k
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 November 2005



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Exhibit 10.1 I
 AVERAGE WEEKDAY vs. AVERAGE WEEKEND - Normalized at the Gross Level
 Schedule F: Public Street Lighting
 December 2005



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